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ADDRESS IN SURGERY.

A SKETCH OF THE PROGESS OF SURGERY.

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BY E. M. MOORE, M.D.,

OF ROCHESTER, N. Y.

From the broad field of surgery there are many lines of inquiry which might interest its devotees, if properly followed. But to treat of any one of them implies special study of the new developments that now abound in the great advances in the art, and the sciences whose discoveries it employs. On a former occasion, your reader occupied the same relation to you that he does at this moment. He then prepared himself for the occasion by a series of experiments *in corpore villi*, to illustrate the subject of blood infusion. He believes that he had the good fortune to add a thought to knowledge on this topic. It seemed to him that a general view of the relation of surgery, and the surgeon, to the community in which he lives and has lived, might be of sufficient interest to justify the spending an hour in its review. This must revive well-known stories, and allude to present movements familiar to all; but they contain triumphs which always stir the heart of the true surgeon. Pope, in his mellifluous couplet, which has pleasantly rung in the ears of every physician from his youth up, has interpreted the views of Homer of three thousand years ago, when he sang that,

> "A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal."

Then as now, the surgeon was most prominently connected in the public mind with the treatment of wounds of accident, or those of his own making. Notwithstanding Homer's complimentary opinion, the surgeon has always found an influence that overshadowed him, until very recent times. He depends on his individuality, not upon his surroundings. He has no motive to promote combinations of men. In his thinking he is the exponent of the natural and not the supernatural. Ever watching the development of law in nature, he is her humble devotee, and believer in her inexorable ways. But the progress of his knowledge was for long ages fearfully handicapped by the supernatural. Indeed, this still holds firm in many minds. But lately I was urged by a loving wife to ply my best skill in a case of Bright's disease, for she would never yield to the belief that recovery would not be likely to ensue, when earnestly asked in prayer, if the right kind of medicine was used. We have accounts of Egyptian medicine 1,500 years before the time of Hippocrates. But the physician was always also a priest, and must ever administer his services with a prayer to Horus. A divided responsibility is ever enervating. Restraint was upon him everywhere. He could not examine the dead, for they were to be preserved. Even the potter's field received no body until a cheap method of embalming was employed. The body was to be reclaimed by its owner, in a period of time varying from 3,000 to 10,000 years, according to the moral and intellectual status of the individual. Of course the body should be preserved with the least possible injury. During the last twenty-five years there has been in this country an enormous increase in the development of specialties in medicine, as we all very well know; partly, perhaps, due to the large increase of knowledge, and partly to the rapid growth of cities. But this is only the revival of a custom which prevailed at least 4,000 years ago. The subdivisions of the profession were more minute in Egypt during the rule of the Pharaohs than with us to-day. I may at once disclaim any intention of giving you a history of surgery. The time is inadequate, and this you can draw from many sources. It has been well and carefully studied, but would be a topic too trite at this time. The present status of surgery has had its exposition too well brought out to leave an opportunity for any interest in its restatement. I must content myself with using only a few points that may touch its growth to illustrate its relations to science in general, with some criticisms on a few subjects that have come under my personal observation. But I cannot pass by a notice of the Father of Medicine in his rôle of medical philosopher. The practice of medicine draws its votaries to the recognition of the uniform bearing of physical law, and away from the easy solution of difficult problems by their reference to the supernatural. So firmly has the latter explanation been regarded as the sole one by mankind in past times, that only the clearest intellects and boldest natures would stand out to the defense of the universal supremacy of law. The physician attacks the problems of the Kosmos at their most difficult point, that of the laws governing the functions of living beings. It is his necessity, and is also his misfortune, to attempt the unravelling of the intricate crossing and contest of physiological functions whose even balance permits

the continuance of life. The marvelous developments of science in astronomy and chemistry are solutions of simple problems compared with those of biology. Chemistry finds its greatest labor as well as its greatest triumphs in the analyses of the elements of animal tissues. The aim of the medical philosopher is to approximate the law which he cannot clearly enunciate. But there are explanations of the Kosmos that may be and are properly regarded as sciences, that show the operation of laws disturbed by others, which only allow approximate statements. Meteorology furnishes a good illustration of such conditions. The general controlling movement of the storm centre can be predicted. But a myriad obstructing forces interfere with the exact mathematical statement which, but for their intervention, might be made. Medicine has abundant illustrations of law whose movement is seen and predicted but, unfortunately, obscured by intervening forces. An effort of this kind would never be undertaken by a physician who commended his work to the favor of Horus. The pressure of the gods was more light upon the Greeks than upon the Egyptians, who were their teachers. Still, the practice of the art was complicated with much appeal to Apollo and Æsculapius. I have quoted in a public address in another place the relation that Hippocrates bore to his contemporaries upon the universality of law. His statement cannot be excelled at the present day by the most advanced thinker; it is one that would do honor to Herbert Spencer. It must be recollected that the Father of Medicine lived at a time when Greece was at her highest pitch of greatness. He was the contemporary of Pericles and Socrates, the two most extraordinary men of antiquity. In the quotation that I make from Grote, you will observe at what an absurd conclusion Socrates arrived in attempting to part phenomena from the universal operation of law. The very magnificent topics which awed him are our best illustrations of the principle that governs all things. Grote, in speaking of the division between the natural and the supernatural, says:

"Thus Socrates openly admitted it, and assigned to each a distinct and independent province. He distributed phenomena into two classes: one wherein the connection of antecedent and consequent was invariable and ascertainable by human study, and therefore future results accessible to a well instructed foresight; the other, and those too, the most comprehensive and important, which the gods had reserved for themselves and their own unconditional agency, wherein there was no invariable or ascertainable sequence, and where the result could only be foreknown by some omen, prophecy, or other specially inspired communication from themselves. Each of these classes was essentially distinct, and required to be looked at and dealt with in a manner radically incompatible with the other. Socrates held it wrong to apply the scientific interpretation to the latter, or the theological interpretation to the former. Physics and astronomy, in his opinion, belong to the divine class of phenomena, in which human research was insane, fruitless and impious.

"On the other hand, Hippocrates, the contemporary of Socrates, denied the discrepancy, and merged into one those two classes of phenomena—the divine and the scientifically determinable—which the latter had put asunder. Hippocrates treated all phenomena as at once both divine and scientifically determinable. In discussing certain peculiar bodily disorders found among the Scythians he observes: 'The Scythians themselves ascribe the cause of this to God, and reverence and bow down to such sufferers, each man fearing that he may suffer the like, and I myself think too that these affections, as well as all others, are divine; no one among them is either more divine or more human than another, but all are on the same footing and all divine; nevertheless, each of them has its own physical condition, and not one of them occurs without such physical condition.'"

Recurring to the subject of wounds we can perhaps at no one point get a better illustration of the movement of discovery than in the changes with reference to their management, and especially of those that the surgeon inflicts in performing the amputation of a limb. It would be idle in the few minutes at my disposal to follow accurately even this one line. Hippocrates can hardly be said to have amputated at all, as we understand the operation. We find the modification and growth of the procedure to have begun less than 300 years since. At first slow of change, but latterly made in almost every conceivable way. Celsus, it is true, proposed to go higher up than the line of demarcation in gangrene, but his plan was scarcely adopted. No great modification can be said to have occurred until the time of Paré. His ligature marks an era of movement. But even this was slow of adoption. He also was fearful of crushing the coats of the artery and protected it. At length the simple plan of the present was confirmed by experience, and as far as the ligature in relation to its action on the blood-vessels is corcerned, leaves nothing to be desired. It can hardly be believed that the primitive methods of amputation through the continuity of the limbs could have been made, as they really were, by the mere chop of a huge chisel, or that the bones should have been broken by powerful osteoclasts preliminary to incision. Even after the knife was devised, shaped like a cycle, the sweep was direct to the bone, which was sawed off on its line, thus making a stump in no wise different from that produced by the chisel. One can hardly contemplate without a shudder not only the operation itself but the painful and ulcerating stumps, whose conical points would ever be sources of suffering. As time went on, and we can hardly state the originator of the idea, it was found that the integuments should cover the bone. Then the form of the flap became the subject of endless variation. It does not appear possible to devise any line of cut that has not been proposed. Moreover, it seems if almost every form has it special application. For in the expectation of the future utility of the limb, by the aid of the mechanic, the result of our work has become varied. We no longer make an amputation of the leg just below the knee to fit the sailor's peg, but assume that none so poor that charity will not furnish the substitute. We can choose circular flaps or oval ones,

single flaps, even triple flaps, anterior or posterior ones, lateral or double or single. We can make curved ends or square ones and all having a right to be considered according to the condition looking forward to the form of the stump.

But long antedating the form of the wound, the surgeon had to meet the dangers of hæmorrhage. One is amazed that they came so near the modern plans but missing them. They learned to tie cords around the limb and yet they were insufficient before the invention of the tourniquet. Why not a little tighter? Why not a compress over the pulsating vessel? But it is perhaps in the nature of invention that simple things are passed by for a long time. One of their methods also, was to use a series of bandages to diminish the flow of blood? Why did they wait for Esmark? Even in our own day surgeons have employed a common bandage tightly drawn for this purpose. It must be confessed that from the earliest period down to the last few years there has been but little improvement in the general management of wounds. A water dressing was the method of the Father; but down through the ages every imaginable device in the shape of ointments was used by surgeons, as we find to be the case to-day among the people. The recipes are amusing reading, but not profitable at the present moment. We are not likely to be much instructed by those prescribing the oil of whelps or moss grown upon the head of a thief hanging from a gibbet. Cold water was the favorite application of Galen, who had large experience in the treatment of wounds in consequence of his position as surgeon to the school of gladiators. The wounds were simply drawn together and a dressing of cold water applied. This is the plan that was urged by the famous Mr. Liston, of London, who controlled opinion during the middle of the present century. He objurgated the method of covering wounds with ointments and charpie in phrase more emphatic than polite, and carried the surgical wound with him. But until a late period the wounds of amputation were necessarily open ones. The very form of the cut demanded it and when the arrest of hæmorrhage was made by hot irons or boiling oils or caustic buttons of sulphate of copper over the bleeding orifice, no other plan could be thought of. But when the simple ligature upon the artery drawn from its sheath, became the fixed, final form of application, surgeons began to close the flaps to make the cure more rapid by the process of adhesion. This proved to be often successful, as we all know, in modern experience. If the whole surface did not adhere most of it might, and thus the period of time for perfect closure shortened. But we also know that at certain places the mortality became alarming. An old hospital in civil and a crowded one in military practice, became charnel houses. Surgeons at different periods changed their methods and open wounds were proclaimed as far more successful than those that were closed. But the word open wound as generally employed is a misnomer. The wounded surfaces, it is true, are not pressed into contact, and provision is made for the drainage of the purulent material, but these surfaces were still, more or less, in contact with each other. I do not hesitate to say, that one of our own members who made the first declaration of his method in the Surgical Section of this Association, has placed the question of the management of open wounds upon a perfect basis. It has been usually my custom to employ it since its announcement, and never with regret. There has been no failure, and little or no constitutional disturbance. I refer to Prof. Link's method, by which the bandage restraining the swelling causes the edges of the wound, which should be circular, to rise like an erectile tissue and stand up open to the air; thus making the only genuine air-dressing that I know of. If left unsupported, flaps will drop upon each other. If lint is put on the surface there is the touch of a foreign body. Even the ligatures will increase the suppurating flow when they lie upon the surface of the wound.

As has been stated, the attempts at primary union have seldom been other than partial, till the advent of the modern antiseptic methods. In the early part of this century experiments upon the encysting of ligatures for closing the arteries, were tried and abandoned. The movement from the open wound, of necessity, to the closed one, antiseptically treated with soluble ligatures and sutures, has been long and slow. We had almost come to the definite conclusion to make the open wound as the final judgment of the profession. Hippocrates avoided amputation except in cases of gangrene. In his day it was full of terror. Indeed, there could not be said to be any amputation as we understand the process. Limbs that were crushed or injured by compound fracture were allowed to get well or to mortify. When gangrenous, after the red line was formed, it was made at the border that nature had decided on as the place of separation between the dead and the living. Such delays in the treatment of severe injuries, with our knowledge, would be simply criminal. But when gangrene has occurred, and we wait, as we must, except in certain rare conditions generally understood, I am in accord with the custom of Hippocrates. This places me in contrast with a custom almost universal. But singular as it may seem, an antiseptic dressing will complete the measure of safety incident to the amputation through the dead part. Reasons for this belief are easily stated, and of course are not those founded on the fear of amputation through the living parts as a general measure. But when the red line has formed, nature has already made the amputation. Following an irregular line, which is lowest down in the integuments and bone, separation has been made between the dead and the living tissue. The danger arises from the retention of poisonous fluids in contact with tissues now full of vitality. An operation of necessity can be made, closely following the line of demarcation, and it will be found that the endosteum retains its vascularity nearly if not quite as far down as the integument does. These are the two factors of an amputation indispensable to its success. The muscles, and especially the fascia and aponeuroses, as well as the periosteum, are apt to die. Deep recesses following the connective tissue will be filled with pus and septic fluids. The amputation may be made as de-

scribed, with far better hope of success, than higher up through the living tissues. The special dangers of amputation through them are avoided. There are no vessels to tie, there is no fresh absorbing surface to be poisoned by its own secretion, there is no danger from hæmorrhage, and more than all, in the enfeebled condition of the patient, there is no shock. The deep recesses are now exposed, and can be cleansed. Absorbent cotton, moistened with a solution of mercuric chloride, pushed into the open spaces, at once attracts, by capillary attraction, all the fluids. When the succeeding dressing is undertaken, it will be found that every part has the appearance and indeed the reality of having been washed clean. The irregular surface is, however, a granulating one, and for this reason alone has become one that is essentially protected from the dangers of sepsis, as soon as a free escape of the fluids can be effected. The periosteum, if destroyed, may result in necrosis of the outer shell of the bone. But the endosteum will maintain it in its integrity, sufficient for the length of the stump. The wound being necessarily an open one, closes slowly. It will be seen that the observation which I urge upon your attention, is a return to the ancient method, with two thoughts added to it which, in my judgment, should change our practice in these cases. They are, as every surgeon knows, fraught with great danger when the amputation is made above, in the living tissue, for the shock of amputation in the enfeebled state is frequently fatal. The custom of the ancients was to pick away the dead part and divide the bone high up. They were anxious to disarticulate, if the line of separation had gone to a joint. One stands aghast at the shapes their stumps must have assumed. In recommending the open wound, in these cases, I only do so at points where a proper stump can be made. Take as an illustration, gangrene commencing in the foot and stopping on the leg four or five inches below the knee. According to our custom the amputation must be made through the thigh. But the danger of such an amputation is vastly more than by the Hippocratic method, at the red line, and the lower stump is far better. The choice, in my opinion, should be made at the red line if possible.

The advent of the gun-shot wound, appeared at a time when the practice of surgery was at a low point; and the effect of the "villainous gunpowder" was regarded with just grounds of terror. The terrible results were ascribed to poison. Both the lead and the gunpowder were poison. How could such fatality occur unless from poison? Poison wounds should be treated with the hot cauterizing iron or boiling oil, to destroy the infected surface. The bullet must be extracted, if it be possible; its poisonous character could scarcely be borne by the constitution. The surgeon with such views would be apt to complete the work of the soldier. But time reforms medical as well as other opinions. If easily extracted, all foreign bodies should be removed, even with the present views of the innocuous character of the bullet. This has always been accepted, and expectation has been the practice for a long time. But now we have antisepsis of the track and careful covering of the wound, to guard against microbal invasion. How far this may be carried is yet unknown, but great advance has already been gained. It is, however, of recent date that the greatest steps have been taken in the management of this special form of wound. Among the most notable are those announced from this platform. The facts are all known to you. The great cavities of the body have heretofore been deemed unapproachable. It was believed that the surgeon, if he undertook their exploration, would render certain what was almost sure to happen. In gun-shot wounds of the abdomen there might, perhaps, be one life saved, while ten were lost. Why should this meagre hope be denied? But all this is changed. I do not report, but only allude to the marvels that are detailed by Drs. Parkes and Senn, marvels that we could only know by the use of vivisection, which fortunately has not yet been submerged under a sea of maudlin sentimentality. Here, again, we have the triumph of cleanliness. A gun-shot wound of the intestine, will inevitably result in the expulsion of some of the contents of the bowels; the vermicular motions of the intestines will surely secure this result, even if after a while these motions are arrested, in obedience to the law of inflammation. These cases of recovery were probably those where a fortunate apposition of the wound near the abdominal walls, circumscribed the area of pollution and nature's active efforts at repair complete the line of circumvallation. The case of the insane woman in Utica Asylum, who punctured the abdomen and drew out a piece of the small intestine, fourteen inches long, and cutting it off with a pair of scissors, threw it on the floor, is widely known. The physician in attendance knew of nothing but expectation in such an emergency. He drew the edges of the abdominal wound together and waited the event. No remarkable symptoms supervened. The recovery was complete. Many years after an autopsy revealed the fact that the edges of the intestinal wound had been fastened to the abdominal wall. But such results are too rare to be guides of conduct. The new methods are already accredited with improvement, and as the courage and better diagnosis of the surgeon improves, we will inevitably place the treatment of these wounds by laparotomy upon a sure foundation. Every surgeon has seen cases of strangulated hernia where gangrene has supervened, and will bear testimony to the fatal character of the injury. Now, for the relief of this condition, enteroraphy comes in to take its place as a recognized operation, with large increase in the saving of life. Again, cleanliness is the pivot upon which the whole movement turns. It seems incredible that the peculiar kind of filth that invades the peritoneum in gun-shot wounds of the intestine, can be removed sufficiently to secure even such results as have been obtained. Antiseptics of proper strength over this immense surface are dangerous expedients. Are we to see a stream of distilled water, rendered properly saline, carried into and out of the peritoneal cavity long enough to insure cleanliness? Are we to irrigate the surface after inflammatory exudates have actually appeared? The possibilities seem large.

That these exudates, when extensive, will accompany a fatal inflammation without the formation of the dangerous ptomaines of microbal creation, it seems to me to be manifest. In the experiments by Dr. Parkes on dogs, one fact is to be specially noted; the frequency of the existence of entozoa and their migration through the wound. It has been my fortune to witness two deaths from rupture of the intestine by external force, without a wound of the abdominal wall; not even a break in the parietal peritoneum. One was in a child of 6 years of age; the other in a man of 40. The child died in twenty-three hours, and the man in twenty-six. Autopsy revealed a fact exactly the same in each case. The fibrinous exudate of a character sufficiently firm to be lifted upon the handle of the scalpel had extended over the whole surface of the peritoneum, even to its remotest corner. It is a little odd also that a single lumbricoid had crawled through the opening in both cases. The fibrinous material had probably acquired its firmness many hours before death. It is hardly credible that much pathological change could have occurred during the latter hours of life. But we were harrassed with doubt whether laparotomy should be undertaken in the gun-shot wound, for it presents unusual dangers from the necessity of handling the intestines from end to end, merely to settle the diagnosis. With all the improvements of the modern methods of making the abdominal section the surgeon has still shrank from the responsibility. Now, to-day at the supreme moment, Dr. Senn places the diagnosis of the gastric intestinal canal upon a sure foundation, literally purifying it with fire.

Just fifty years ago, during my student days, I had the pleasure of an invitation from Prof. Mutter to witness the first operation on the Tendo Achillis in Philadelphia, and as I believe, on this continent. It was his second operation. The antecedent one was upon the ham-strings. Still a young surgeon, he was especially patronized by Dr. John Ray Barton, who upon the then recent death of Dr. Physic, was by common consent recognized as the surgical chief of Philadelphia. Dr. Barton protested vehemently against the operation and refused to witness it, being unwilling to give his countenance to anything that was so dangerous. It would certainly blight Mutter's prospects in life. Moreover, the interests of the patient should stand first, and he could not be a party to anything so contrary to good surgery. The great fact of the protected immunity from suppuration when subcutaneous incision is made, had not yet impressed itself upon the surgical mind. The vast value of direct repair had acquired its recognition under the guidance of John Hunter, but the value of the subcutaneous cut was not appreciated. This marks one of the most magnificent of all surgical movements. The rationale was to be explained to-day. Antisepsis is the legitimate descendant of the subcutaneous cut. The tenotome would almost surely be cleansed as it passed through the skin and the minute wound would be washed by the few drops of extruded blood. This was clearly our antisepsis.

Was not Dr. Barton justified by his experience? With our knowledge, his conclusions reached the depth of absurdity. But had he not seen tendons sloughing when exposed to the air? Had not cases of accidental incision of the Tendo Achillis been reported often enough to prove, that if the life, always in danger, was preserved, the limb was likely to be useless from the loss of its great tendon? The surgical world woke to a great fact; and strabismus, torticollis and all contracted tendons came under the surgeon's knife, until it became almost a craze when Guerin, for the relief of lateral curvature of the spine, cut every spinal muscle and tendon that he could define, until the chain of bones could be moved like a serpent's back.

At the meeting of the New York State Medical Association last September, I led the discussion upon the proper method of treating compound dislocation of the ankle joint. I found the opinions of surgeons on this point very indefinite, with a strong, even an uncompromising judgment in favor of amputation; notably by Prof. Gross who would make rare exceptions to this plan. Others advised reduction and a few relied on resection, some, of the tibia and fibula with removal of the ends of both bones with their malleoli, while others removed the surface of the astragalus also. Even the most modern writers left the whole subject in a vague way to the judgment of the practitioner. These authors were quoted to show their various opinions, but it would be out of place in this paper. For a long time I had been convinced of the great wrong inflicted by these teachings, which were founded on the statistics of hospitals in large cities before the day of antiseptic surgery. Such advice was even then not applicable to the condition of life in the country and smaller towns where purer air and better constitutions existed together. I had used resection with good results in three cases, and had seen two cases, in consultation, which had been simply reduced by the surgeon in attendance. The latter made good recovery after a considerable constitutional disturbance, but by anchylosis. But before writing my paper, I had the good fortune to see a case that had been treated by a young friend, (Dr. P. G. Udell), which seemed to mean almost ideal result. The foot, movable through a little more than half its normal extent, and free from pain in walking, was enabled to execute its function by the formation of a flail-joint after the resection of an inch and a half of the tibia and fibula. The novelty of the method, consisted in leaving the two malleoli attached to the astragalus and bringing their fractured extremities in contact with the resected end of the bone. Granulation was the result of course. Drainage and carbolic acid solution were employed to secure antiseptic results. Permit me to quote my own paper, which gives a *résumé* of my judgment in these very grave wounds.

"One of the greatest triumphs of surgery is the marvelous utility of the arm after resection of the elbow-joint. This flail joint, as I have been in the habit of naming it, can execute all the motions of the normal one if we are careful in its training during the period of its perfecting. The case I have cited, illustrates a possibility of a similar result in the ankle. Should we not then regulate our treatment with this

end in view? Let us for the present leave out of consideration any complications, such as may arise from rupture of the posterior tibial artery, proceeding with our plan even if there be a rupture of the anterior tibial. Also, leave out those cases where a great crushing force has compressed the soft parts as well as luxated the joint, which would almost necessarily produce gangrene. The most common cause of this injury is a fall from a height upon the foot, as jumping from a carriage when in quick motion. The foot coming in contact with the earth and then held, while the body is in motion, almost surely induces a spiral twist, which, with an inclination of the leg at an acute angle with the ground, produces the break of bones and rupture of soft parts. The end of the tibia is thrust into the ground. Two of these cases were from jumps from the carriage when the horses were running. Bad as such conditions are, they are not apt to produce much destruction by gangrene. Such a condition of the synovial membrane cannot be remedied but by suppuration, if reduction is attempted, no matter how much care we may use in cleansing or antiseptic dressings. But there are cases where there is only a rupture of the soft parts and ligaments, and the joint is barely opened and moderately displaced.

"I am disposed to lay down a formula thus for the cases of the mild character just mentioned: Let the clothing be carefully removed. At once apply a sponge with a bichloride of mercury solution, 1 to 1,000. With a lens inspect the part to discover foreign particles, under these circumstances most likely to be lint. The tenacious synovia picks up at once particles of what it comes in contact with. These can be removed with antiseptic sponges held in antiseptic fingers. The edges can now be neatly apposed with fine sutures of carbolized gut, after the bones have been replaced. It is not absolutely necessary to use a splint of plaster of Paris, but I confess to my partiality to it on account of its immobility. A double-inclined plane is a very good appliance. But before its application the leg around for several inches should be shaved. I would then apply absorbent cotton, wrung out of a solution of the bichloride mentioned, and cover the surface, over which an antiseptic covering should be placed. This is a bid for adhesion, of course, though it is seldom to be expected.

"But let us regard the more usual form, as described before. Let us assume that the malleoli are in place as far as the astragalus is concerned, but broken above; the end of the tibia thrust into the soil. It is surely idle to hope that any amount of cleansing can prevent suppuration. The procedure, in my opinion, should always be resection and, if the astragalus be not broken, only of the end of the tibia and fractured end of the fibula. From one-half to a whole inch of the bone should be removed. Of course the most careful cleansing should not be omitted. The ends of the fractured malleoli should be joined to the bones above by catgut carbolized sutures, drawn through holes drilled in each end. This only for the sake of absolute apposition, which might be disturbed in the necessary handling during the application of the splint for permanent retention. The edges of the wound can be brought together at what would be the upper part when the foot is at rest, while the lower is filled with a drainage-tube. I should scarcely be satisfied with any appliance for securing the proper position except the gypsum bandage, with a large opening for the requisite dressing. That the foot should be placed at right angles with the line of the leg need not be told to this audience. In consequence of the resection this is easily borne. Where there has been reduction without resection, the position is painful by increasing the pressure upon the inflamed synovial surfaces. The surface of the wound and surface of the skin for two or three inches around should be covered with some antiseptic dressing, of which absorbent cotton, saturated with the bichloride solution, is to my mind sufficient.

"The drainage-tube offers an easy access to the depths of the wound, which should be washed by an antiseptic solution, of which carbolic acid may be the most safe, as well as sufficient. Let us suppose the progress favorable, the rise of temperature moderate, as well as the other constitutional symptoms. We have a right to expect union, commencing at the point of contact at the centre. The straight line of the saw-cut on the tibia applied to the convex surface of the astragalus at once comes in contact with it, while the surfaces on each side are to be filled by granulations. This condition permits the motion that is so often the result of treatment by resection, and should be cultivated more early than is commonly attempted. The stage of danger is during the early period. When the granulations are filling up the spaces, change of position should be undertaken. This is my constant practice in the treatment of the similar condition of the elbow joint. A slight change in the angle of the foot toward the leg could be made every second day, so slight as not to disturb the process of repair. This can be carried on until the extension of the foot is as complete as that of the sound one. Slowly the foot can be carried down to extreme flexion. To accomplish this purpose, a splint hinged at the centre of motion and controlling the foot and leg can be substituted for the rigid plaster of Paris.

"I cannot but believe that a successful result would follow as the rule from such a procedure. The danger of resection with these appliances can hardly be more than a Syme's amputation. The bone cut is the same, and is probably not more susceptible to the septicæmic infection than the synovial face of the astragalus. If, however, the case is showing a dangerous decline from excessive temperature and fever, with too copious suppuration, we have the resource of secondary amputation.

"But let us suppose that the conditions are not so favorable, the comminution of bones considerable, and the soft parts much lacerated and contused. There has been no doubt then of the propriety of amputation. Must this sad resource be the only one we have before us? My advice is still for conservation. The danger from bone comminution is comparatively trifling. The fragments must be removed; the resection may be two inches or more, instead of

one inch, from the end of the tibia, and yet produce the most splendid result. The great danger comes from the sphacelus of soft tissues, especially if there is hæmorrhage from an artery of some size. My experience in the use of warm water to preserve the circulation in injured tissues has been so different from that which I had before warm water as a persistent agent had been so generally employed, that I am constantly astonished at its efficacy. Even when I know that the tissue of a foot or hand is destroyed, I cannot always feel secure of my flaps at the point of election. I recall two cases of boys over whose feet car wheels had passed, but not injuring the heel and ankle. But as this cannot be absolutely known, the proper method is obviously to amputate above the ankle. But the great superiority of the stump after Syme's operation induced me to keep the feet in both cases in warm water for six days. In each of them a sufficient flap was secured. The dead tissue was defined, and without alarming symptoms. But it is with no desire to obtain a flap after gangrene shall have supervened that I cite this experience, and I would not delay the use of the last resort a moment after the occurrence of gangrene. But it is the marvellous effect of warmth to save the vitality of injured tissues; and as this can be used in connection with the antiseptic measures, the case would be a bad one indeed where I would employ amputation as a primary measure.

"The introduction of the foot into warm water necessitates a dependent position, and this is one to be deprecated. To avoid this inconvenience, an anterior metallic splint may be used for the first week, which, being raised from the bed, allows every convenience for the drip and avoids the painful droop of the foot. My habit in the employment of water for both the ankle and the knee is to envelop them with cotton, and then surround the whole with an elastic rubber sheet. Upon the top of the cotton the water can be poured from a pitcher or fountain syringe at short intervals, avoiding fluctuations of temperature. This water may be rectified with the bichloride of mercury, 1 to 5,000. If gangrene should supervene, a secondary operation can be made without the delay for the red line of separation. That there are cases of luxation so complicated with extensive laceration that no question of the propriety of amputation need be asked, is certain; but I urge the profession to lean to the side of mercy."

Six months' reflection and experience has induced a change of opinion. I would, in nearly all cases, reduce and rely on the power of cleanliness and antisepsis. There are those, of course, where the crush is so severe that there can be no doubt. But when the rupture is great better opportunities are given for the inspection of the surfaces than when the opening is small. The resection may be secondary and the amputation tertiary.

The microbal discoveries of Pasteur and Koch and their disciples have placed all of our therapeutics on a new basis. I will not detain you in speaking of them; the subject is too trite. We hear now of little else. No one knows, when a real discovery is made, how far it will reach. It always seems to run like a thread through the woof of all knowledge. How can we measure the scope of a piece of glass ground to a lens? The spectroscope was a mere philosophic toy at first. What now: the analyst of the sun as well as of the blood. No one can now measure the possible triumphs of surgery. That which was excellent yesterday must be abandoned to-day. I confess, after long years of practice, to a delight that has the glow of youthful enthusiasm when making a resection of the knee under the use of mercuric chloride and closing up the wound with silk sutures, and applying drainage-tubes in each corner of the wound, and then covering the whole with absorbent cotton saturated with the same microbal enemy; to remove the whole at the end of two weeks with complete closure, every suture encysted, and not a drop of pus. Of course, there was no fever, only physiological repair. Or even to witness, perhaps, a more difficult feat in a much more common condition, the neat apposition of the tissues of a hand lacerated by machinery, while a stream of the antiseptic solution flows over every part, and the retention of these tissues in their proper position by sterilized catgut, the whole protected with absorbent cotton saturated with the solution. At the end of a fortnight the sutures have disappeared, the repair is complete, without a drop of pus. Such are now the experiences of all of you, and need no enlargement of statement. The surgical atmosphere is now antiseptic. Lister must take his place beside Jenner. For the time, he has added a word to the language, and we do not mean merely carbolic acid and the spray, when we speak of Listerism. There is already a wide range of material to choose from. It is, however, obvious that there is a constant tendency towards the employment of the mercuric bichloride, notwithstanding the objection raised by Prof. Billroth and his preference for iodoform. Its accessibility, its inodorousness, and enormous powers as a germicide will easily account for this. The natural fear of its powerful toxic effect has rendered us all cautious, but more knowledge of good methods is expanding its application.

Who has not dreaded the care of a compound fracture of the thigh? But now we have report by Prof. McEwen of 1000 cases of osteotomy and no bad results. Who a few years since could have accepted the statement, that the bone could be cut and crushed, the surface broken and driven into the texture of the bone above and below, and yet remain absolutely free from the danger of necrosis and ready for union? The operation is essentially subcutaneous. But Dr. Hahn, of Berlin, boldly incises the soft parts and exposes the surface of the tibia under a stream of mercuric solution, regarding this operation as secure as the subcutaneous cut, and as the parts can be seen they are more susceptible of proper management. In all these cases merely the quiet necessary to physiological repair with its antiseptic covering comprises the after-treatment. Its simplicity and rapidity of result amazes one. Perhaps, however, the best illustration of the value of the treatment that renders wounds aseptic is to be found not in those McEwen has made, but in those that have resulted from accident, which we recognize

as compound fractures. They are at the deepest part of the limb and present every form of wound in the same case known as incised, punctured, lacerated and contused. They have always been the terror of the surgeon. At present the record of the triumphs of antiseptic surgery flows from every hospital. It would be burdensome to quote much, but the tables of Volkmann give at a glance the whole history of the modern leap in surgery. It has always been the misfortune of old hospitals to be the places where the greatest mortality would ensue when a wound was to be treated. It is not necessary to enforce this statement by any large collection of statistics, but I cannot pass by the consideration of this subject without quoting the extraordinary tables of Volkmann. He has collected the facts from the hospitals of Germany and England, and found that the results in all were similar in a very remarkable degree. He found that of 885 compound fractures of the limbs, 339 deaths resulted, whether preserved or amputated, being 38.50 per cent. This in civil life. In military hospitals the percentage was 23.6. The difference may be easily accounted for by the fact that many of these were recently constructed and often extemporized, and also that the average age of the subject was during the firmest periods of life. The approximation in results in the various civil hospitals is shown very simply.

Baum, in Göttingen,	the mortality was	38	per cent.
Billroth, in Zurich,	"	38.7	"
Breslau,	"	40.5	"
Halle,	"	40.6	"
Bonn,	"	41.8	"

Since the adoption of an antiseptic method, Volkmann makes report of 75 cases in 73 patients with compound fractures and many with injury of the joint, and not a single death. Of these there was the extraordinary number of 21, or 28 per cent. of all cases. Eleven of these were treated conservatively, and there was but one that resulted in anchylosis. One was a shoulder-joint which was resected. The elbow-joint was opened six times, of which there were made one primary, and three secondary resections. Two were treated conservatively. The knee-joint was opened four times and treated conservatively. The ankle was opened six times. Two were treated by secondary resection. One by amputation. Three were treated conservatively. The management was simple. In the first place protracted drenching with water, the removal of spiculæ and trimming sharp ends of bones, enlarging the wound always enough to allow exploration with the finger, and then causing it to gap by retractors, while the drenching was going on, not stopping until the last coagulum was disposed of. Then completing the irrigation by a drench of carbolized water. After the proper replacement of parts the whole was covered with abundant layers of carbolized gauze, and kept free from accumulation of fluids by drainage tubes. Most of the cases were seen within a few hours after the injury. Five, however, were treated after delay of forty-eight hours.

The great achievement of the day, however, is by common consent the marvelous growth of laparotomy. During my early career the removal of an ovarian tumor, notwithstanding McDowell's success, was stigmatized as murder, which indeed it seemed very often to be. Dr. Atlee was fiercely denounced for his efforts to bring this operation into the ranks of legitimate surgery, which he lived to see fully established. But through what a valley of death have the wonderful results been obtained. It is now but 14 years since Keith electrified the whole surgical world with the report of 10 consecutive cases and only one death. Two years after Dr. Atlee remarked to me, after performing an operation of this kind, that if it should succeed it would be the tenth consecutive good result. It, however, failed. By what slow approach have we arrived at the present simplicity of operating. The manipulation is simple, but delicate beyond the necessities of ordinary surgery. How difficult to apply what we call experience. Surely every surgeon had seen enough of the danger of opening the peritoneum to fear its terrible inflammation which we have often seen run over the whole immense surface, even to its remotest recesses, beginning at a wounded point. Experience was ample. How could we dare to defy the results of such knowledge? But from the recognized fatality of the tumor, and the distressing condition under which life was maintained during the latter period of its existence, we should have known but little of the dangers to be avoided and how to combat them. How long a time it required to learn, that after all, it was not peritonitis that we were chiefly to fear. We had to learn that the whole immense surface was but little else than the expansion of the lymphatic system, as the skin is of the nervous one. And when the blood mixed with the contents of the sac, that have been left behind, excited first a secretion from the surface for their solution preparatory to their absorption according to the natural law for their disposal through the blood, we encountered on the autopsy the fearful red serum. Too much was to be done. Even our therapeutics misled us. I still accept the correctness of the opium treatment in genuine non-traumatic peritonitis. We owe a great debt to Dr. Alonzo Clark for the careful development of its excellence in this condition. But our pathology was a mistaken one, and I cannot but think that the mortality is increased in the cases first mentioned by the use of opium. How much to unlearn and how hard in the face of our experience? Who has not looked into the peritoneal cavity during an operation and hardly dared to touch it, preferring to leave some blood and sac contents, rather than touch the inflammable surface. But the death of Keith's eleventh case struck the key-note. The peritoneum must henceforth be clean. To our astonished gaze the membrane could be sponged and washed and dried, and then it quietly removed the small amount that the sponge could not absorb. From this time the death-rate diminished in the hands of every operator, and the note has become universal that the basis of all antisepsis is cleanliness. Even the exudates from peritonitis must be removed, according to Mr. Tait, who has for this condition washed out the cavity with water that flowed from the city tap and which, according to a friend with microscopical knowledge, contained "thirty-six

different kinds of beasts." "You reject antiseptic medication," said I to Mr. Tait, who replied: "Yes, it is all rubbish; there is but one antiseptic that I know of." "Pray, what may that be?" "Soap and water." Again it is cleanliness. It would be idle to say that surgeons did not esteem cleanliness as going a long way before Godliness in operations. But it was not of the precise and thorough kind that was demanded. I will leave the statistics that Mr. Tait has given us out of our consideration. They transcend those of all others who have undertaken to follow in his footsteps; so as to lead one to believe that there are some problems unexplained. The operation for the removal of an ovarian tumor is by common consent, in its various conditions, at times the most difficult one of execution that ever comes under the hands of the surgeon. At other times it is the type of simplicity. These circumstances give an opportunity for a wide difference in the results of operative procedure intended to be similar. There is a preponderating opinion that direct antidotes to the processes that seem to control the poisonous results of suppuration, increase the percentage of favorable termination in cases that have been operated upon. Their use marks another step in the treatment of wounds accompanied by exposure of the peritoneum. Mr. Tait's results are to be regarded as unique, and surgeons are not likely to omit proper antiseptic measures. We are still in the midst, of change, but the splendid record of expert operators, as we all know, has removed this operation from a mortality that seemed murderous to one that is less than any operation of a capital character. That this result has been obtained by constant attention to the action of natural law is too obvious to be denied.

Several years since I removed a uterus containing a fibroid weighing seventeen pounds. The cut extended nearly the whole length of the linea alba, before it could be drawn through it. The vessels were ligated on the sides and then I carried out my device for managing the stump, and guarding the peritoneum from the presence of the dreaded foreign body in the shape of ligatures or sutures. A slight incision was made all around the huge mass about three inches from the vaginal junction. This was dissected down and all around to nearly the point above mentioned. The vessels were easily seized and the blood was readily prevented from passing into the cavity of the peritoneum by the cup-like form of the cut. Amputation was made about an inch from its junction with the vagina, and at this point it had of course become small. But little blood flowed from this last procedure, for the vessels had already been secured. After hæmorrhage had ceased the edge of the cup-like pedicle was pocketed in the linea alba. Thus peritoneal surface was brought against its congener. The intestines had fortunately been kept covered by the abdominal walls. Union of the wound in the linea alba was perfect. A drain down through the neck of the uterus seemed to me the most perfect of appliances. I fondly hoped that this was all that could be desired. But I had at this time no means of antisepsis. Now Péan, as reported by Dr. Senn, closes over the stump with catgut sutures, after having extirpated the mucous membrane of the neck, and brought the abraded surfaces together by a sort of autoplasty, and drops it back into the pelvis. As an operative procedure this seems to me to be final.

But the exposure of a joint to the atmosphere is far more apt to result in inflammation, with a tendency to suppuration, than the peritoneum. But now we follow the nests of bacilli into the joint with the sharp spoon, and filling all nooks with an antiseptic solution, close the capsule with an assurance of freedom from any active inflammation, especially of a suppurating form. This is surely one of the most extraordinary triumphs of antisepsis.

I must not omit, in this sketch, the important step in advance that was declared in the papers of Prof. Andrews and Dr. Watson, delivered before this Association last year, on the treatment of carious wounds by the use of a solution of hydrochloric acid 1 to 20. *A priori*, every one felt that such a strength of acid must be so irritating as not to be tolerated. But coming from such authority, I at once adopted the method, and I desire to say that I regard it as one of the great advances in surgery, free from danger or even irritation, and replete with power. Moreover, we have at the same time an agent that removes the dead and does not injure the living bone, and is also a valuable antiseptic.

Neither must I fail to speak of one of the stages in the progress of research which is marked by the attempt to obtain sterilized air. As we all know, Lister's spray has occupied the largest place for this purpose, with a reputation much waning, and entirely abandoned as worse than useless in laparotomy. Let any one make the experiment of throwing the spray upon a plate of glass for a few minutes, and he will find, by the employment of a lens, that the rush of the vapor has drawn in and deposited upon the glass every floating particle in the atmosphere, thus concentrating the minute foreign bodies instead of dispersing them. Independent of the poisonous carbolic acid, rapidly absorbed from the large surface of the peritoneum, we would make a special deposit of foreign bodies, which, though minute, would be aught but useful. But long before Lister's time, a plan of enclosing the part to be operated on in an atmosphere of nitrogen was attempted. The difficulty of executing the procedure to a successful termination arrested the experimentation. Many years since I myself entertained the hope that benefit would accrue from the pouring of carbonic acid gas over the wound and into the cavity during a laparotomy, thus excluding the atmospheric air. But without sterilized hands and other necessary apparatus, the method was comparatively useless, and with the proper antisepsis became comparatively unnecessary.

We also find Dr. Prince sterilizing the atmosphere of the whole operating room, and a Boston hospital supplied by air from the roof, which, being carried to the basement, is passed over heated plates in winter, and thence distributed over the building. Burning sulphur is a common method of preparation with which all are familiar. Perhaps we may yet choose

a room whose air shall be purified by its passage through sterilized cotton, or through tubes in imitation of Tyndall's glycerine box.

It is the glory of the time that really great men among us are not so marked by a wide separation from their colleagues, such as prevailed one hundred and fifty years ago. Then there was but one John Hunter, and he remained without peer, and with few followers. Meeting one of his contemporaries when he was carrying home some pig's feet from the market, for the purpose of anatomical inquiry, he was sneered at for busying himself about pig's pettitoes. To-day, the pettitoes on such a mission would be enclosed in a nimbus. We now have a Koch who leads, but there is a large following close at his heels. We have Atlee and Spencer Wells, but almost at once their followers appear everywhere and outstrip their teachers.

We sometimes hear pessimists declaim against the methods of the profession, and summing up their wild statements in the compendious anathema, that the world would have been better if the practice of medicine had become extinct. Our modern methods have not been long enough in use, to attract the kind of folly, that denounces vaccination, but it will appear. When pointing to the vast benefits that mankind has received from the labors of the medical profession, we naturally place at the head the trifling operation of vaccination. This is a contribution of surgery. Next to this stands the practical extinction of scurvy, which decimated the crews on long voyages, seriously crippling commerce. This result must be placed to the credit of the hygienist. Koch is credited with the assertion that the student will soon only know septicæmia by description, as he now knows scurvy. This is the addition to science furnished by the bacteriologist. But this is rendered the greatest boon of all by the surgeon. It is the crowning achievement of modern science, that we have already returned two of the greatest scourges of mankind to the box of Pandora, with a reasonable prospect of adding a third to the list.

It seems incredible that surgeons could have been at any time united in a guild with barbers. The connection in England was severed in 1742, while Mr. Pott was in active life, a man of culture, who has left his mark permanently upon the art. But the surgeon stood in rank far below the physician, and at one time was not allowed to make a surgical operation without the consent of the doctor. But at present it seems as if the future of the profession must be largely surgical. With a single bound the limitations set up by the physician have been pushed aside. The surgeon opens the various cavities of the body, not only to repair injury, but to remove the results of morbid processes. If the physician fails to rectify the abnormal chemistry of the enlarged spleen, the surgeon removes it. If nephritis and pyelitis with organic disease in one kidney is bearing the patient down, the surgeon takes it away. If disease obstructs the bowels, he cuts it out and joins the healthy ends of his cut. If the lungs are the seat of abscess he punctures and drains them. If the brain has an abscess pressing on it and endangering life, he punctures, drains and renders the wound aseptic. It is difficult at the present moment to define the possibilities of modern surgery. It is a fit representative of the time we live in; the combination of science and action.

ORIGINAL ARTICLES.

TRACHEOTOMY IN MORPHINE POISONING.

Read before the St. Louis Medical Society, March 21, 1888.

BY BRANSFORD LEWIS, M.D.,
ASSISTANT SUPERINTENDENT OF CITY HOSPITAL.

About four months ago, I read in the *Medical Review*, a short account of the resuscitation of a physician of Vienna, from opium narcosis by means of tracheotomy and forced respiration with a bellows. It seemed to me to be a rational and feasible procedure, and I determined to try it, should the opportunity present itself.

On the afternoon of March 11, 1888, a young man was brought to the City Hospital in an unconscious condition. It was reported that about an hour previously, in ending up a debauch, he had taken an ounce of laudanum with suicidal intent.

His condition then was bad; cyanosis was marked, the pulse was proportionally weak; and respiration, already shallow, was rendered difficult by the accumulating mucus in the trachea. The pupils were minutely contracted and immobile; extremities cold. The treatment usually carried out in the hospital in such cases was adopted; one-hundredth of a grain of atropia, and several syringefuls of whisky were administered subcutaneously, the syphon-tube was passed into the stomach, and that organ was repeatedly washed out, at first with water, afterward with strong coffee. The flagging respiration was stimulated by douches of cold and hot water alternately dashed over his chest, and to the same end the Faradic current for a time seemed to be of benefit. But notwithstanding our efforts, narcosis became more profound; cyanosis was intensified to a degree which I have seldom seen, and efforts at respiration on his part ceased entirely, so that artificial respiration was substituted, effectually at first, with much less success afterwards. It became evident that unless something radical were done, and that, too, immediately, the patient could not last. I bethought me of the bellows method.

The patient was hastily removed to the amphitheatre, where, with the kind permission of our superintendent, Dr. H. C. Dalton, I performed tracheotomy as rapidly as possible, during which only a gasp was taken now and then, probably two or three to the minute. On separating the severed cricoid, a deep inspiration was followed, as is usually the case at this stage of a tracheotomy, by a considerable interval of quietude. We were about to insert the tube connected with the bellows, when a second gasp produced such a shock on the bronchi by the direct impact of cold air on their mucous surface, that violent coughing was set up, expelling with

each spasmodic expiration, mucus which had collected in the trachea to a considerable amount. By this means the tube was soon cleared of its contents. Coincident with the violent coughing, of course, deep inspirations were taken, just the object aimed at, though attained in an unexpected manner, without the use of the bellows; change for the better began almost immediately. The dark purple countenance gradually paled under the more vigorous action of the heart—however paradoxical that may appear at first thought—and efforts to speak evidenced returning consciousness. A piece of moist gauze placed over the tube, acted as a filter to the inspired air. Injections of stimulants—whisky and ether—were continued at intervals, and another hundredth of a grain of atropia was given, after which the patient was removed to his bed and subjected to frequent and vigorous stirring up when respiration was inclined to flag—and it was so inclined for the next several hours.

Sleep was not prevented, and he was soon wrapped in its soothing embrace.

On the following morning the tube was withdrawn and the incised membrane and cartilage were sutured, the rest of the wound being allowed to granulate.

I should like to be able to close the record of this case *a la mode* with the statement that recovery followed without a bad symptom, but I am prevented from doing that by the fact that four days after his entrance into the hospital, the patient became subject to delirium tremens, from which he died thirty-six hours later. The presence of pneumonia or other complication of that sort was definitely excluded by post-mortem examination.

It may be suggested that possibly the patient might have recovered even after several stoppages of natural respiration, such as the one which precipitated the operation, ordinary methods of artificial respiration being employed. I, too, believe that possible—but not probable, a fact but too often demonstrated in cases of that kind.

I have seen not a few patients with vastly less cyanosis, with at times stronger pulse and more vigorous respiration, succumb under the continued use of that treatment.

And the procedure could add no complication to the already critical situation; on the contrary, it could only be of benefit, by allowing a free vent for the cause of that ominous sign, the tracheal râle, and by shortening and simplifying the channel of communication between the lungs, and that all powerful life-giver "fresh air." As hinted at above, the direct influx of unwarmed air would seem to be no mean factor in conducing to the desired end. Should respiration not be reëstablished, or fail after its repeated reëstablishment, it would be easy enough to insert into the tracheal tube, a tube connected with a bellows, by which the lungs could be forced into activity as long as desirable.

In searching for literature on the subject, the *Index Medicus* directed me to only one article refering to it, that of Dr. G. E. Fell, in the *Buffalo Medical and Surgical Journal*, for November, 1887. In it the author reports the successful treatment by means of forced respiration with bellows, etc., of a patient who had been poisoned by morphine for a longer time than the one to whom I have called your attention. The narcotism in the former case seems to have pursued a course not so rapid as that of the latter. The apparatus used was the one usually employed in the doctor's physiological laboratory in the performance of artificial respiration on dogs.

The operation was done on July 24, 1887, prior to the one performed at Vienna, and was therefore, so far as known, the first on record. Since then, Dr. Fell has used the treatment with success in two cases, both of which required the prolonged exercise of forced respiration.

In view of the results of the hospital case, I believe that in morphine poisoning, where other means fail, even though it be impossible, on account of the lack of apparatus, to supplement it with bellows respiration, tracheotomy is a wise and justifiable measure.

CORROSIVE SUBLIMATE INTERNALLY IN PUERPERAL AND OTHER SEPTICÆMIAS.

Read before the Gynæcological Society of Boston, February 9, 1888,

BY C. W. STEVENS, M.D.,

FELLOW OF THE BOSTON GYNÆCOLOGICAL SOCIETY, OF THE AMERICAN ACADEMY OF MEDICINE, ETC.

I was first led to use corrosive sublimate internally in puerperal septicæmia by observing its beneficial effects in diphtheria. The principle on which I base its use was announced in 1884, at the Medical Congress in Copenhagen, by Dr. Bouchard, who then made this statement: "Medical antiseptic therapeutics does not propose to kill the microbe, but only to stay its pullulation. Even slight modifications in the human infected organism may prevent the indefinite multiplication of certain microbes which have invaded it."

It was found by Roice, of Utrecht, that in any suppurating focus microbes are found in the blood and kidneys. Dr. H. J. Garrigues, in his paper on puerperal fever in the genital tract of puerperal women, has endorsed this view by recommending, in addition to local treatment, "carbolic acid, sometimes combined with the compound tinct. iodine." If we can hinder the proliferation of microbes, or render them inert, is it not as important as their elimination from the system? Dr. Macan, in his report of the Rotunda Hospital for 1883, declares that he knows nothing which will quicken the elimination of the poison from the system in hetero-genetic infection. In cases in which the source of poison is heterogenetic I am accustomed to attempt to sterilize the air in the patient's room by means of iodine vapor. I place iodine sales in cups with a little alcohol and suspend them around the room. The fumes are not disagreeable nor very irritating, and are well borne. I have used bromine, but find it rather troublesome to the throat.

My initial dose of corrosive sublimate is $\frac{1}{18}$ grain,

and if any looseness supervene I diminish it to $\frac{1}{96}$. If there be a tendency to too frequent dejections the bichloride can be guarded by an opiate. I have never had any sore mouth nor any unfavorable symptom except a slight relaxation of the bowels, which was relieved by diminishing the dose.

In connection with the internal use of bichloride, it may be used as injection; but I believe the cases of poisoning have been due to a too large dose. Dr. Ernst has pointed out that even 1:10,000 will stop the proliferation of microbes. I have used in the uterus 1:5000 and in the vagina 1:3000. As to Dr. W. L. Richardson's pad, I have used something more simple which I think equally efficacious. I have the nurse wring a napkin out of lukewarm 1:2000 solution and apply it moist; it gives great comfort.

There are certain cases of mercurial idiosyncrasy in which it is better to use injections of liquor sodæ chlorinat. or of permanganate potassæ, the latter of which I have used several times with satisfaction.

In cases in which chill or uterine colic follows intra-uterine injections, I think crayons or suppositories of iodol are excellent. Apart from its dangerously poisonous properties, iodoform masks the lochial odor, which is a great disadvantage. Iodol, although having nearly the same per cent. of iodine, appears to be innocuous, and is excellent in suppurating surfaces.

Case 1.—Mrs. R., æt. 18, primipara, was confined by me Nov. 14, 1887, of a still-born child at term. I was obliged to use forceps on account of incompetency of uterine contractions and exhaustion of patient. There was no rupture of perineum, and but a slight unilateral laceration of cervix. She rallied well from the operation. Her lochia were very scanty from the beginning. There was no trouble with the milk secretion. She seemed to get along in a normal manner, and complained of nothing until Nov. 23, or the ninth day, when she was taken with rigor and fever. The next day I found in the morning pulse 108, temperature 103° F. Severe frontal headache, nausea and fetor of the lochia. No tympanitis nor diarrhœa, and only slight tenderness over uterus and right ovary. I ordered her 18 gr. quinine and injected into the uterus a 1:60 sol. carbolic acid by means of Jennison's reflux tube. A few minutes after the injection she had a severe rigor, which lasted half an hour. The next day the pulse was 100, temperature 103°. I now injected 1:2000 hot bichloride sol., and applied tinct. iodine over hypogastrium. A few minutes after the injection she had a bad and long rigor and became much alarmed.

The following morning her temperature had gone up to 104°, and she found it impossible to turn over on account of soreness. The injections had evidently caused shock and had not relieved her in any way; in fact she was worse. I now prescribed corrosive sublimate gr. $\frac{1}{48}$ every two hours. The next morning the temperature had fallen to 100.5° and the pulse to 92. She felt much better and less sore. I now gave her a vaginal injection of 1:2000 bichloride daily, and continued the same internally until the sixth day of the septicæmia, when she became convalescent.

Case 2 is that of a four-month abortion in which septicæmia ensued from retained placenta. I removed it, washed out the uterus with permanganate of potass., and gave bichloride internally with beneficial effect.

Case 3.—Puerperal peritonitis of a severe type, with bad sanitary surroundings in a gypsy crowded tenement. The bichloride caused a fall of temperature and was beneficial. Recovery. My cases uniformly show a diminution of temperature after its use, and generally very quickly.[1]

MEDICAL PROGRESS.

CASE OF COBRA-BITE: CURE.—MR. PERCY A. RIGBY, Offg. Civil Surgeon, Sonthal Pergunnahs, reports the following interesting case:

On October 21, a Hindu, named Mohan Lal, aged about 30 years, brought a young cobra, two feet long to me, in consequence of a reward I had offered for a live cobra, for the purpose of experiment, at about 8.30 A.M. As I was not at the dispensary at the time he exhibited the snake to the Hospital Assistant, with the result that it escaped, and in recapturing it, he was bitten between the index and middle fingers, on the back of the hand. He refused any treatment and went home to take native medicines. At 12.30 P.M., the Hospital Assistant was informed that the man was in a dying state, and he at once had him brought to the dispensary.

On admission, the patient could not stand, his respiration was gasping, and he could not raise his head, but was conscious. Saliva was flowing from his mouth, and mucous râles obstructing respiration. Pulse full but soft; hand and forearm swollen; the palmar surface corresponding to the bite was livid.

The Hospital Assistant gave a hypodermic injection of permanganate of potash (5 per cent.) in the situation of the bite, rubbing permanganate powder into the wound; and a draught containing liq. ammoniæ ℥ xx. aqua oz. ½.

1 P.M.—Patient gradually becoming worse; saliva in great quantity pouring from the mouth; mucous râles very marked; convulsive spasms of body and especially of the extremities; respiration spasmodic; head fallen forward on the chest. Pulse softer. Repeat draught of liq. ammoniæ.

2. P.M.—Symptoms increasing in severity; messenger sent off to me.

2.30 P.M.—On my arrival I found the patient as described, apparently sinking fast; the mucus threatening suffocation; violent convulsive spasms affecting the body; respiration spasmodic; pulse 60; respiration 12 and abdominal; partial paralysis of the lower limbs; unable to raise his head; mind unimpaired. I injected ℥ xv. liq. ammoniæ, aqua ℥ xv. hypodermically into the bend of the elbow. Surface of body covered with a cold clammy perspiration. A

[1] I will add to the above two cases of facial erysipelas, one being puerperal, in which the use of the bichloride, gr. one twenty-fourth, stopped the spreading of the disease in 24 hours; a thing I never saw before in any other treatment. It likewise dropped the fever like an anti-thermic.

large mustard poultice was placed over the heart.

3. P.M.—Convulsive spasms more severe; pulse more feeble; breathing very catchy; passed urine and fæces in the bed, apparently fast sinking. Repeated hypodermic injection of liq. ammoniæ.

3.30 P.M.—Breathing had almost ceased, although the râles seemed less, and the pulse had rallied in quality, becoming firmer and being 68.

3.45 P.M.—Respiration 12, pulse 70, and improved in tone. Convulsive seizures less frequent; râles diminished and general improvement. Gave draught of ℥ xx. liq. Ammoniæ, swallowed with much difficulty. At this point a man of his caste came to pray over him, and before I could stop him, placed his mouth to his ear and commenced blowing into it with great violence. The patient at once had two or three violent convulsive seizures; all the improvement vanished, the pulse became almost imperceptible and respiration about 6; the jaw dropped, and he seemed *in articulo mortis*. I left him at 4.20 P.M. expecting every gasp to be his last, and instructing the Hospital Assistant to inform me of the time of his death, and directed a repetition of the draught in case he should by any chance rally.

4.20 P.M.—*In statu quo.* The Hospital Assistant gave another ammonia draught. Patient became drowsy; spasms less frequent.

4.30 P.M.—Respiration very shallow; patient seemed to become comatose; but suddenly he rallied and from this time improvement steadily continued; the pulse gradually improving, and at 6 P.M. was 78. Experienced great difficulty in swallowing, but by 8 P.M. this had passed.

The treatment now consisted simply of stimulant in the shape of oz. ½ of country spirit every one-half hour for two doses in a like quantity of water, the next day his temperature was 101.2°, arm much swollen; saline mixture, and fomentations prescribed. There was no ulceration from the hypodermic injection of ammonia.

NOTE.—The bite was a genuine cobra-bite, the wounds of both fangs being visible, and the man was bitten in the presence of the Hospital Assistant. I regret that Dr. Richard's treatment was not more minutely carried out; but when I was called to the patient, he was so rapidly sinking that I determined on hypodermic injection of ammonia. Had not the untoward conduct of the native priest produced the desperate symptoms stated, I am confident the man would have recovered without the terrible convulsive seizures produced by this bit of fanaticism, the man explaining it was "to keep his teeth from falling out of his jaws."

As an example of what may be effected through presence of mind in the case of snake-bite, a Bombay paper gives an account of the following incident, vouching for the correctness of every detail. On Thursday evening last the *malee* of a bungalow at Bandora was bitten on the foot by a viper, which was immediately killed by another of the servants. His master was fortunately standing by, and he at once suspected the poisonous nature of the snake. He took the most prompt measures, injecting strong ammonia (which was at hand, as the gentleman is an amateur photographer) into the puncture, and tightly bandaging the leg in two places above the wound. Three glasses of raw whisky were also administered. By this time a horse and trap had been got ready, and the man was driven to the Bandora dispensary, where he was immediately attended to. The wound has since shown no serious effects, and the *malee* is nearly well enough to résumé his work. The snake has been sent to Mr. Phipson, Honorary Secretary of the Bombay Natural History Society, who has written as follows: "I am sorry to say it is undoubtedly a Russell's Viper, *Daboia elegans*." The *malee*, therefore, owes his life to the prompt measures that were taken on his behalf, and the manner in which fatal consequences were averted is worthy of being brought to public notice.—*Indian Medical Gazette*, Dec., 1887.

INTRA-TRACHEAL SPRAY.—DR. A. F. MODESTOFF has published as a graduation dissertation an account of some investigations made by him in Professor Sushchinski's laboratory in St. Petersburg on the administration of powerful drugs to dogs by means of spraying into the lungs from the trachea. The instrument used was something like a hypodermic syringe needle with a lateral orifice; this needle was connected with a small spray apparatus, the reservoir being in the form of a test tube and graduated so as to show how much of the liquid had been used. As, of course, it was difficult to prevent the animal's struggles from interfering with the operation, it was found advisable, after shaving the front of the neck, to expose the larynx and to fix it. The needle was then inserted into the trachea so that the orifice should look downwards. When water or indifferent solutions were used no effect was produced on the respiration or blood pressure which was taken in the femoral artery. When, however, solutions of active drugs—such as curare, strychnine, cocaine, and atropine—were employed, a very prompt effect was produced, frequently in about ten seconds. It was found, too, that the effect was greater as well as more prompt than when the same doses were administered by the mouth, the rectum, subcutaneous injection, or even than when introduced into the venous circulation. Of course Dr. Modestoff does not propose that under ordinary circumstances this method of administering medicine should be adopted for human beings, but he thinks that it may possibly be advantageous where prompt action is of the last importance—as, for example, in some cases of poisoning, and in hæmoptysis, where other methods of treatment have failed. He quotes, also, the experience of Jousset, who, as long ago as 1874, saved the lives of two patients suffering from a very grave form of malarial fever by injecting a solution of quinine into the trachea. He also suggests that in cholera the physiological solution of chloride of sodium might be employed in this way. Again, in cases of disease of the respiratory passages where tracheotomy is indicated, he thinks that perhaps the intra-tracheal spray might sometimes serve. One observation was made on a human patient, a man on whom tracheotomy had been performed for Stoerck's blennor-

rhœa. A single spraying of a fluid ounce of the physiological solution of chloride of sodium, at a temperature of 60° C. (which previous experiments had shown to give a spray of about 38.5°, or a little above the temperature of the healthy body), was sufficient to cause a quantity of inspissated crusts to be coughed up, with the result of making the patient feel very much relieved. The spray was repeated several times, causing no inconvenience or unpleasant symptom. An interesting table is given by Dr. Modestoff, showing the change of temperature caused by the formation of spray. Thus the temperature of the room being 20° C., that represented the only temperature for the liquid which underwent no change, or at which the temperature of the spray was 100 per cent. of that of the liquid in the reservoir. When the liquid was 15° C., the spray was at the first half-minute 17°, at the second 18.5°, and at the third 18.5°, the maximum percentage of the original temperature shown by the spray being 123. Of course, when the liquid was warmer than the air the process of atomization cooled it, so that a liquid of 40° C. gave a spray of 32° during the first-half minute, and of 31° during the second and third half-minutes—*i.e.*, it was cooled to 80 per cent. of the original temperature; while a liquid of 90° C. fell to 50.5°—*i.e.*, to 57 per cent. This shows that care must be taken to ascertain the effect of the process of atomization on the temperature of the liquid before arranging the details of the operation.—*Lancet*, March 17, 1888.

COMPLICATED DISEASES OF THE PANCREAS AND THEIR SURGICAL TREATMENT.—KARL HAGENBACH records two cases, one of hæmaturia and another of carcinoma of the pancreas. The literature of diseases of the pancreas is studied at length. The number of operated cysts of the pancreas now reaches thirteen. Of fifteen cases tabulated by the author eight were males; the ages varied from 16 to 46 years. The duration of the disease is chronic, and in some of the cases the symptoms extend over a period of five to twelve years. The prominent symptoms in all cases were oppression or pain in the epigastrium, eructations, vomiting, irregularities of the bowels, and extreme emaciation. With all this there was a tense, elastic tumor in the upper abdominal region with pseudo-pulsation. Küster lays stress on the presence of a moderate amount of blood in the exploratory puncture of such tumors. This last element speaks for the presence of pancreas cysts. In Küster's case a venous hæmorrhage into the cyst probably followed the exploratory puncture.

Hæmatoma (Friedreich) of the pancreas is relatively common (hæmorrhagic cysts of Senn). The apoplectic cysts (Friedreich) (hæmatoma of Senn), are rarest occurrences. The apoplectic cysts have, until now, been found only post-mortem.

Closely allied to the apoplectic cysts both clinically and genetically are the diffuse hæmorrhages into the tissues of the pancreas. The symptomatology of the hæmorrhagic pancreas cysts is in no wise a characteristic one. In one case the sudden onset of vomiting of blood caused a fatal result. In another case the appearance of blood in vomited matters and dejecta were the only symptoms. In other cases even the above were absent, and the diagnosis was not made ante-mortem. The prognosis of hæmatoma is bad; the patient dies of hæmorrhage, or the increasing size of the tumor, or from pressure effects on adjacent viscera. The most successful treatment thus far (Thiersch and Gussenbauer) has consisted in incision, drainage or tamponade. Stenosis of the intestine in diseases of the pancreas may result from pressure of the morbid growth in rare cases. The cases result fatally, as a rule. Laparotomy fails to relieve the patient supposed at the time to be suffering from strangulation of the gut. Post-mortem alone reveals the true cause of death. This rare cause of ileus has received comment at the hands of Gerhardt (*Virchow's Archiv.*, bd. 106, h. 303). In the author's twelve tabulated cases, nine proved fatal through compression of the gut by the growth. In another case the fatal result was caused by a hæmorrhage from an ulceration of the duodenum. The diagnosis was not positively made in any recorded case before death. In all the cases where laparotomy was performed for the relief of symptoms of intestinal obstruction (3) death resulted. In cases of compression of the common gall duct by pancreas carcinoma, the author advises the formation of an artificial biliary fistula—*Deutsch. Zeitschrift f. Chir.*, bd. 27, heft 1 and 2.—*Annals of Surgery*, May, 1888.

REFRACTURE AND RESETTING OF BONES.—MR. KAILAS CHUNDER BOSE, of Amraoti, records the following case:

Pana Lall, an up-country man, æt. 22, came down from Jeypore with a badly united fracture of the neck of the left femur. When he came under my notice I thought his case was one of hopeless dislocation, rather than that of a badly united fracture. On comparing the affected leg with the sound one, I found it was shorter by several inches. On making him stand, the left knee would touch the right, and the thigh was considerably adducted. On my attempt to abduct it, I found I could only do it partially, causing great pain to the poor patient. On making him sit up on a charpoy the affected knee would keep four inches in front of the right knee. The patient had lost all control over the limb; he could not flex or extend it at will. When laid on his back, the thigh was drawn over the abdomen; there was a considerable amount of lordosis; the interspace between the spine and the bed would be four inches; he could not lie flat on his bed, would always prefer to lie on his right side. I advised his friends to take him to the hospital, as I then thought that nothing less than resection of the hip-joint would be of any good to him. I requested the favor of Dr. K. McLeod's examining the patient, to find out, if possible, a remedy other than excision. Dr. McLeod kindly examined the patient, but did not like to give any decided opinion until he had examined him a second time, and under chloroform. On the following morning the patient was placed thoroughly under the influence of chloroform. We both examined the patient. I thought that it was a case of unreduced

dislocation shamefully neglected by the local doctors, whilst Dr. McLeod declared it to be one of badly united fracture. He would advise them to bring him to the hospital, but they begged of him to do something for the patient at his own house. Dr. McLeod instructed me to hold the limb firmly, and he himself tried to disunite the badly united fracture. In our attempt to extend the limb the union gave way with a loud snap, and the shortening of the limb was at once removed, the knee was extended, and the limb placed on a long splint with a ten pound weight suspended to prevent contraction. The joy of his friends was intense; the patient, when he returned to his senses, was happy to find his leg straight. In the course of six weeks I had to remove the splint seven or eight times to change the bandage. The ends united firmly. After a month and a half he was allowed to stand up and try passive motion. He regained full control over the limb, and in ten days after the splint had been removed he was quite able to walk with a stick, and in two months he left Calcutta for his country quite happy with the result. —*The Indian Medical Gazette*, February, 1888.

Metabolism in Typhoid Fever in Childhood. —The urine gives perhaps the best indications of the tissue changes proceeding in typhoid fever, as in any other disease. Jacubowitsch (*Archiv für Kinderheil*, Bd. ix, Heft i) has made an important contribution to our knowledge of the metabolic changes in typhoid fever in children. He insists on the necessity for knowing the actual quantity of nitrogenous material daily ingested, and also the quantity of urine and other excreta, together with the daily loss of carbonic acid and water. There is a considerable diminution in the quantity of urine passed during the pyrexial period, but no definite correspondence was noted between the elevation of temperature and the quantity of the urine. At the end of the first week there was a loss which varied from 50 to 200 cubic centimetres, and even to 500 cubic centimetres in some cases, the quantity voided being only one-half of the normal. These diminutions were rather increased during the second week, whereas at the end of the third week the quantity tended again to rise, and in some of the cases was twice the amount of the second week. During the fourth week the normal was still not reached. As a rule, the color of the urine was deeper red the less the quantity passed; but this did not always obtain, for in some instances the color was nearly natural. The reaction was usually acid—sometimes, however, only slightly. As was to be expected, the density of the urine was inversely proportional to the quantity. Gerhardt states that albuminuria results from variations in blood pressure due to the pyrexia, but Jacubowitsch does not substantiate this, for he detected no albumen in the urine in his cases at any period of the disease. The estimations of the urea discharged during the disease are very interesting, and appear to be ranged in two classes: in one the urea discharge was large during the first week, but then gradually lessened as the disease progressed; in the other class the discharge of urea gradually augmented with the continuance of the fever, and continued to rise until the fever ended. The uric acid discharged was found to correspond with the elevation of temperature, and to be greater during the pyrexia of the first period than during the later stages of the disease. A diminished excretion of chlorides was noted all through the morbid process. The excretion of phosphates and sulphates also was grouped into two classes like the urea, in one the quantity being increased at first, but then lessening by degrees, and *vice versa*. Jacubowitsch believes that the activity of the poison in the blood has more influence in altering the urine than has the fever or the febrile accompaniments.—*Lancet*, April 21, 1888.

Anomalous Ducts of Exit from Parotid Glands in Front of Ear.—Dr. D. M. Crossman, of Lewisdale, S. C., reports the following case:

I was called to see the children of Mr. D., a very wealthy farmer, six miles distant in the country. I examined his children (four in number), and found that three of them have a small orifice on each side and just in front of the upper portion of the external ear, and that one has only one opening in front of the left ear, and that there is a continous discharge going on through these orifices all the time. On close investigation, I diagnosed these openings to be the mouths of small ducts leading from the parotid glands, and that, instead of the secretions being poured out through Steno's ducts at the proper place, they are discharged through these ducts externally, just in front of the external ear. Mr. D. has three children that have not this abnormality, but he has a brother-in-law (a brother to Mrs. D.), who has two children that have the like ducts discharging externally—making in all six cases, four males and two females, in the same family.

I find that whenever the excretions from the parotid glands through these ducts comes in contact with the air, in very cold weather, and when the mouths of the ducts are not kept clear and open to give free exit to the grandular secretions, the secretions accumulate in the ducts and produce glandular irritation, and when opened externally, discharge a very purulent excretion. I opened up two of the ducts, in each of two of the children, which were blocked up, and these discharged considerably. I probed two of the ducts with a small silver probe, and found that they led directly into the parotid glands.

I advised the parents to keep the ducts open to give constant and free exit to the secretions, and they have no trouble when this is done; and the discharge, when constantly going on, is so small that it is seldom noticed when kept clean.

The family record is unquestionably good through a long line of ancestry, and there is not a shade of heredity in the etiology of these cases.—*Virginia Medical Monthly*, April, 1888.

Borofuchsin as a Stain for Tubercle Bacilli. —Professor Lubimoff describes, in the *Meditsinskoe Obozrénie*, a new stain for tubercle bacilli, which he calls borofuchsin. It consists of—fuchsin, 0.5

gram; boracic acid, 0.5 gram; absolute alcohol, 15 grams; distilled water, 20 grams. Prepared thus, it has a slightly acid reaction; it is quite clear and not liable to spoil by being kept, consequently it is always ready for use. The sputum is dried on a cover glass, and stained by being heated in contact with the borofuchsin for one or two minutes. The stain is then washed out by treatment with dilute sulphuric acid. The specimen is then washed with alcohol, and subsequently immersed for half a minute in a saturated, alcoholic solution of methylene blue. After being washed in distilled water and dried, the examination of the specimen is made in oil of cedar or in a solution of Canada balsam. In exactly the same way sections of tuberculous organs may be stained after hardening in spirit, only in such cases the steps of the operation must be somewhat more prolonged. The main difference between this and other staining processes for Koch's bacilli is that, when borofuchsin is used, the process of washing it out with sulphuric acid is an almost instantaneous one. All other bacilli are, as when other stains are used, rendered colorless and invisible, the tubercle bacilli being alone seen.—*Lancet*, April 21, 1888.

CASCARA SAGRADA.—Some interesting pharmaceutical facts on cascara sagrada are communicated by Messrs. H. F. Meier and J. Le Roy Webber to the *Pharmaceutical Journal* (No. 926). The active principles—the resins of cascara—are not bitter, and form soluble compounds with the alkalies and alkaline earths. The glucoside, though the parent or source of the bitter tonic principle, is itself devoid of bitterness. The glucoside is capable of undergoing decomposition in the normal gastric juice of the stomach, with the development of the bitter principle there. It is thus possible to prepare a comparatively tasteless product from cascara which shall contain the laxative and tonic virtues of the drug. A ferment, belonging to the class of unorganized and soluble ferments like diastase, pectase, pepsin, papayine, etc., has been discovered in cascara. The brown resin is present to a much larger extent in aged than in fresh bark, and seems to possess the greatest laxative power. The ferment seems to be identical with that existing in numerous other vegetable substances, such as cabbage, liquorice root, frangula, etc.—*Lancet*, April 14, 1888.

SCHINUS MOLLE IN BLENNORRHAGIA.—DR. E. BERTHERAND, of Algiers, records twenty-seven cases of acute blenorrhagia, of from five to twenty days' duration, and seven old cases, of from two to eight months, in which other measures had been used without success, and in which schinus molle was used successfully. The pods of the plant, after being stripped of the epicarp, are powdered as fine as possible, and the powder mixed with a very small quantity of syrup of gum. This is a very simple way of preparing the drug, and masks its taste and odor, which are very much like that of pepper. The pills are easily taken with a swallow of water, and are easily borne by the stomach, causing no vomiting, no diarrhœa, no thirst, and no ardor urinæ; on the contrary, most patients say that the drug increases the appetite. These effects make schinus molle very much better than cubebs. Bertherand's table shows that for the acute cases the average time for cure was 11.8 days; average number of pills 26 to 27 a day, for chronic cases; average time 34.7 days. The pills were given, half in the morning and half in the evening. [Bertherand gives no indication whatever of the contents (by weight) of a pill.]—*Nouveaux Remèdes*, No 5, 1888.

BOLDIN, A NEW HYPNOTIC.—Boldin is the glucoside obtained from boldo leaves, and DR. JUNANVILLE highly praises it in a recent number of the *Progrès Médical*, as a hypnotic "far exceeding opium and chloral." This is saying a good deal for it. We are told also that boldin is not disagreeable to take, has no unpleasant effects, increases the appetite, and has a "strengthening" influence on the patient. Between 5 and 10 grams were given daily to various patients. The sleep induced by this substance is of a natural kind, and the breathing is regular and tranquil. Boldo leaves contain about 3 per cent. of boldin. It may be given in capsules in doses of 0.2 grams (3 grains), repeated as necessary, or diluted 1 in 20 in water) subcutaneously.—*British Medical Journal*, April 28, 1888.

PURPURA HÆMORRHAGIC AFTER A MENTAL SHOCK.—DR. ED DE SMET, of Brussels, has recently had a case of a young woman of a highly nervous temperament who, in consequence of a severe fright, experienced an eruption of purpura hæmorrhagica, though she had never had any eruption of the kind before. Some four months subsequently, however, in consequence of a fall, a similar eruption made its appearance. The treatment was directed mainly to the nervous system, which was evidently very much affected. Dr. de Smet refers to M. Lenoir, of Lille, who has published cases of various skin diseases—eczema, psoriasis, herpes, pemphigus, and vitiligo—which have followed a mental shock.—*Lancet*, March 17, 1888.

ERYTHROPHLÆIN IN OPHTHALMOLOGY.—M. PANAS read a communication on this subject before the Académie de Médecine on March 6. His conclusions were that the drug, as a local anæsthetic for the eye, is of less value than cocaine; that its anæsthetic action is of longer duration, but the inflammation and the acute pain accompanying its application render it an improper drug for use in operations on the eyes, that if necessary, there is nothing to prevent the prolongation of cocaine anæsthesia by repeating the cocaine instillations as often as necessary.—*Bull. de l'Académie de Médecine*, No. 10, 1888.

TREATMENT OF MILK CRUST.—E. BESNIER recommends putting over the child's head a caoutchouc bonnet, which is removed twice a day to be cleansed: and over the face is placed a mask cut out of a sheet of caoutchouc. This causes the crusts to fall off, and restores the skin to its normal condition. The remainder of the treatment consists of hygienic measures.—*Nouveaux Remèdes*, No. 5, 1888.

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SPONTANEOUS AND CONTACT INFECTION IN PUERPERAL FEVER.

Much confusion has arisen in recent discussions of puerperal fever from ambiguity of terms. An illustration of this fact is furnished in the various use of the words, auto-infection and hetero-infection. It is evident, however, upon critical examination, that the difference of opinion is only apparent, not real, and is largely dependent upon the fallacy just mentioned.

Thus, Ahlfeld[1] urges that the puerperia of the cases of precipitate labor—street labors—collected by Winckel, and the labors experimentally conducted by himself to settle the question, demonstrate that self-infection does occur. Under self-infection Ahlfeld includes those cases in which "the poisoning substances were on or in the parturient passages during labor, or are formed there during labor and the puerperium, and are introduced into the body of the woman in consequence of the manipulations of physician and nurse, or without these manipulations." This is the original conception of auto-infection by Semmelweiss ("*Innerhalb der Grenzen des ergriffenen Organismus*"). It is impossible, Ahlfeld believes, to draw a sharp boundary line between infection from without and self-infection, since the *materia peccans* may be constituted by microörganisms resident in the pubic hair or in the immediate environment. He adds that the comparison of the genital tract of the recently delivered woman to a wound cut off from communication with the exterior has been productive of erroneous views. It would be better to liken the parturient canal to a contused wound of the surface of the body. Further, that the doctrine of self-infection does not rest upon the demonstration of the presence within the vagina of pathogenous bacteria, as asserted by Stumpf. Every woman who, by reason of pelvic contraction, is unable to expel the fœtus and remains undelivered, dies of blood-poisoning or septic peritonitis, when the lethal issue is not precipitated by hæmorrhage or rupture of the uterus. Herein lies the demonstration of the presence within the vagina of every woman of microörganisms which, under certain conditions, are sufficient to cause fatal infection. A demonstration of the same fact is found in cases of sepsis consequent upon abortion, in which no hand or instrument has been introduced within the genital tract.

A few weeks since, Professor Heinrich Fritsch[2] made a praiseworthy attempt to clear up this confusion in terms. In this, and similar discussions, we beg to remind the reader that "names are to be valued as coins." Fritsch calls attention to the fact that materials capable of causing infection are not found in normal blood nor in intact tissues. Solid tissues and blood removed from the healthy living organism by absolutely aseptic methods, and preserved under conditions of absolute sterility, do not decompose. Self-infection, in the sense that the agent is resident in the woman's body without gaining access from the exterior, is impossible.

Infection takes place in two modes: 1. Cocci resident within the vagina or adherent to the skin surface gain access to the puerperal wounds, cause the decomposition of the wound secretions, form ptomaines and condition a resorption fever. Infection may occur in this way with or without the intervention of physician or nurse. But is this an example of auto-infection? If it is a case of auto-infection, then an abscess in the bladder wall from catheterization, a purulent periproctitis, an alveolar abscess, an infarct in pyæmia, a peritonitis following ruptured pyosalpinx, are all examples of the same process of self-infection. Strictly speaking, all of these cases are examples of hetero-infection. In every case the agent of infection is introduced into the body of the patient from without.

II. The other mode consists in the direct infection of the wound by the hands or instruments of the attendants. It was this mode that Semmelweiss had chiefly, though not exclusively, in mind when he instituted his prophylactic measures. Fritsch expresses the opinion that in these days of rigid antisepsis, the former is by far the more frequent mode of infection. This statement may be true of Germany. It is not

[1] Berichte und Arbeiten, Bd. II u. III. Centralbl. f. Gyn., 1888.

[2] Deutsche Medicinische Wochenschrift, No. 11, 1888, p. 202.

the case in the United States. We are under the conviction that the doctrine of Semmelweiss must be enunciated, and enunciated again before this second mode of infection can be excluded in the explanation of the large majority of cases of puerperal fever occurring with us.

Fritsch finds the boundary between *within* and *without* the body in any intact surface, covered with its normal epithelium. For example, whatever lies within the vagina or upon the vaginal portion, but above the epithelial covering, is outside of the body, and constitutes an infection from without.

To describe the two modes of infection, just mentioned, Fritsch years ago introduced the terms direct and indirect, primary and secondary infection. The words spontaneous and contact infection, suggested by Mikulicz and subsequently adopted by Billroth and other surgeons, are preferable.

Fritsch acting upon the principle, believed to be firmly established by modern research, that certain cocci always cause definite diseases, that there is always a definite tissue reaction upon infection with a definite coccus, now proposes the names non-pathogenous and pathogenous infection.

But there are obvious objections to the new terms, and these have not escaped the attention of their author.

It is possible in cases of non-pathogenous infection, in the absence of therapy, for death to occur, while pathogenous infection under appropriate treatment may terminate in recovery. The criteria of harmlessness in the one case and fatality in the other are thus plainly false.

Moreover, in the present state of our knowledge, it is impossible to draw a sharp line between pathogenous and non-pathogenous bacteria. There is no such thing as a puerperal fever coccus in the sense that there is a typhoid fever bacillus. Olshausen distinguishes between the coccus of sepsis and the active agent of pyæmia. According to modern views, it is in a high degree probable that various species of bacteria may stand in causal nexus with puerperal fever. It is well known that this disease has a protean character.

Upon the whole, the terms spontaneous and contact infection as now employed in surgery, answer better the requirements of a philosophical nomenclature than any of the substitutes yet proposed. Certainly these words are less productive of confusion than auto-infection and hetero-infection.

The recent discussion of self-infection has been of great practical value, since it has again directed attention to the necessity for the disinfection not only of the fingers and instruments of the attendants, but also of the body and genital tract of the parturient woman. It has taught us to beware not only of the pathogenous bacteria clinging to the hands and instruments, but also to the bacteria, chiefly non-pathogenous, adherent to the body or clothing of the parturient woman. The discussion serves to emphasize Credé's[3] maxims of prophylaxis: (1) not to wound the genital tract, and (2) to preserve from infection the wounds that are unavoidable or already present.

THE CHICAGO HUMANE SOCIETY.

The Chicago Humane Society held its annual meeting on May 5. The President, MR. JOHN G. SHORTALL, announced that a new Industrial School for Boys, entirely unsectarian, had been founded, and that since last June 143 boys had been committed to this school. A total of 224 children have been rescued from the probabilities of a vicious career, and placed on the road to self-support. During the past year the Society has established two new branches in the State, at Streator and Cairo. The amount of fines imposed was $1,837, number of complaints and cases investigated 1,625, children rescued 1,252, children sent to charitable institutions 420, prosecutions for cruelty to animals 78, prosecutions for cruelty to children 17, horses found unfit for service 68, disabled horses removed 93, teamsters and persons reprimanded 560, abandoned animals destroyed 157. In seven years the Society has rescued 6,715 children, placed 1,544 in institutions, rescued 6,342 horses from drivers, prosecuted 1,045 cases of cruelty to animals, and 314 of cruelty to children. So much for the good work of the Society.

The President referred to the charges against the *employés* of the North Chicago Street Railway for cruelty to the horses, and said none of them had developed anything demanding interference. Very naturally, since the charges of cruelty have been made against the company, not against the employés. The employés of a company are not responsible for the unfitness for service of animals used by the company. But if none of these cases demanded interference, it would be interesting to know what is the Society's standard of cruelty, and of unfitness for service. Such miserable and totally unfit horses as have been in use by the North Side company for two months past, and more, would not have been tolerated for one day had a Henry Bergh been at the head of the Chicago Humane Society. The pathological horses that may be seen, any and

[3] Gesunde und kranke Wöchnerinnen, Leipzig, 1886. p. 81.

every day, attached to the licensed express wagons in Chicago would, under proper and efficient administration of the Humane Society, be permanently retired from service. A painful death would be euthanasia to them, as compared with their life. At almost every hour of the day, and every day, may be seen instances of cruelty to horses at the approaches to the bridges, where already over-loaded horses are whipped to compel them to drag their loads over the viaducts. Yet in three years the writer has never seen an arrest or reprimand of a driver of such horses, nor has he ever seen an agent of the Humane Society at work.

Every day hundreds of horses may be seen driven or compelled to stand for hours with cruelly tight check-reins. Does the Society ever take cognizance of these matters? Almost as cruel is the driving of horses, when the mercury is below freezing or zero, with metallic bits, especially when the rubber bit is better at any time than a metallic one.

With all this work confronting him, the President of the Society thinks it time that some move should be made against vivisection, and attacked Pasteur in his report, though, as this "attack" is not published in the report of the meeting, it is impossible to guess how much he knows of Pasteur's work. But it is to be hoped that the Chicago Humane Society will not stultify itself by an attempt to suppress vivisection. Wholesome regulation of vivisection, in order to preclude abuse, is undoubtedly desirable, but an attempt to suppress it shows, to say the least, the presence of a biased and unequally balanced mind.

A MISREPRESENTATION CORRECTED.

Soon after the meeting of the International Medical Congress, in Washington, in September, 1887, the statement was made by a Washington paper, and subsequently copied into several other papers, and was even repeated from the pulpit, to the effect that $6,000 of the appropriation of $10,000 made by Congress to aid in defraying the necessary expenses of the meeting, were expended by the Local Committee of Arrangements for wines and liquors. As the terms of the congressional appropriation required the money to be expended under the direction of the Secretary of the Treasury, that high officer of government has recently transmitted to the Speaker of the House of Representatives, a full itemized bill for the amount, which will be found in this JOURNAL under head of Miscellaneous matters. If those who have been so ready to accuse the medical men of squandering the public money for strong drink, will take the trouble to examine this bill they will see that not one dollar of the money drawn from the *National Treasury* was spent for drinks or refreshment of any kind.

THE CINCINNATI MEETING.

The Thirty-Ninth Annual Meeting of the American Medical Association, recently held in Cincinnati, was one of the most pleasant and profitable that has been held during the last decade. The arrangements made both for scientific work and social reunions, by the profession of Cincinnati, were all that could be desired. The general morning sessions were well attended, and the addresses of the President and Drs. Bartholow, Moore and Wallcott were listened to with unusual interest and profit. All of the Sections were fully occupied, and some of them held two sessions a day on account of the number and value of the papers to be read and discussed. The full official record of the proceedings will be given in THE JOURNAL next week, 26th inst., when it will be seen that the hasty and imperfect reports published by some of our contemporaries contain many and important errors. That show of enterprise which sacrifices correctness in stating the doings of important medical organizations, for a few days of time, is far from being commendable.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Eighteenth Annual Meeting, held in San Francisco, April 18, 19 and 20, 1888.

[*Report furnished by the Sacramento Medical Times.*]

(*Concluded from page 597.*)

THIRD DAY—FRIDAY, APRIL 20.

MORNING SESSION.

The report of the

COMMITTEE ON MEDICAL LEGISLATION,

which had been made a special order for this session, was taken up. The Chairman, DR. C. E. BLAKE, of San Francisco, presented, as the report of the committee,

A MEDICAL BILL,

which he submitted for the consideration of the Society. The bill, which discusses the subject at some length, contains several important provisions, and in its general tenor conforms to a resolution introduced by Dr. Plummer at the meeting of 1887, and which was adopted by the Society. A board of seven members, to be known as the "Board of Medical Examiners of the State of California," is to be ap-

pointed by the Governor, the conditions of appointment, official tenure and expenses being provided for. Every person intending to practice medicine in the State after the passage of this Act, must have a diploma or license from a legally chartered medical school or institution. Such school or institution being defined by the Act, and a certificate from the Board of Examiners. This certificate can only be obtained by examination of the applicant in anatomy, physiology, pathology, chemistry, toxicology, surgery and mechanical obstetrics. The fee for the certificate will be $20, and it must be recorded in the office of the Clerk of the county in which the holder is practicing. The certificate may be refused or revoked on the ground of unprofessional conduct, which is fully defined—the applicant being cited to appear before the Board to be heard in his own defense. The Act will be printed in full in the Transactions of the Society.

DR. H. S. ORME, of Los Angeles, concurred in the bill, with the exception of section 14, relating to fines, which, as well as the penalty, he thought were too small. He believed that half of the fine should go to the informer. This would materially assist the working of the Act. In every community there are persons who are willing to do this work, and this will compensate them for the service that they rendered.

DR. H. J. CRUMPTON, of Sausalito, said that he had had some experience in the working of the medical law. He regarded this Act as a decided improvement on that at present in force. He thought that after the deliberate action of the committee, assisted by the legal member of the Society (Dr. Taylor), that it would be unwise to attempt to tinker with it. He favored placing it in the hands of the Committee on Legislation, for presentation to the Legislature, and would urge upon every member of the Society the necessity of earnest personal effort in its behalf. The people demand that pilots, who bring ships into port, shall have a license, or that a man who takes charge of a locomotive must know something about it, but they seem willing that any irresponsible confidence operator may assume the *rôle* of doctor.

DR. G. F. G. MORGAN, of San Francisco, said that several years ago he had attempted to enforce the medical law, but he signally failed. If there had been a provision whereby half the fine would go to the complaining witness, there would have been at least fifty witnesses in that community.

DR. ORME offered as an amendment, "That half of the fine imposed shall go to the informer, and the other half to the school fund of the State."

THE PRESIDENT suggested that the question might be put, "That it is the sense of this Society that such a change should be made, and that the matter be left in the hands of the Committee with power to act."

This was unanimously adopted.

The Committee on

RECOMMENDATIONS OF THE PRESIDENT'S ADDRESS,

through its Chairman, DR. C. E. BLAKE, of San Francisco, reported that the President be commended for his zeal and industry on behalf of the Society during the past year, and that the recommendations contained in the address, particularly those relating to preventive medicine, be endorsed by the Society. The Committee presented a draft constitution and by-laws, to be acted on at the next annual meeting.

The report was adopted.

The report of the

COMMITTEE ON OBSTETRICS

was read by DR. WALTER LINDLEY, of Los Angeles. Formerly, when hæmorrhage indicated the onset of abortion, he administered small doses of ergot. He has found that a combination of ergot and morphia, in threatened abortion, had frequently prevented it. In inevitable abortion he did not believe in ergot, as it produced painful tetanic contractions. In labor he believed that it should never be given until the uterus was emptied. In normal cases he did not deem it necessary, but in cases of flooding used it hypodermically. He believed that topical measures were more important. After *post-partum* hæmorrhage is controlled ergot may be advantageously given, but it should not exclude other measures. It certainly did not hasten involution. He concluded that ergot should be used only as a hemostatic. 1. In abortion it can be given combined with morphia, to prevent or delay. In labor it should be given only after the completion of the third stage subsequently.

DR. W. A. BRIGGS, of Sacramento, in opening the discussion, said that not more than 50 years ago a celebrated surgeon arose before the British Medical Association and exclaimed, "Thank God I know nothing of obstetrics." The retort was as keen as the exclamation; "If the gentleman is thankful for his ignorance he has much to be thankful for." He referred to this to show the position of obstetrics to-day as compared with its position 50 years ago; an advance that must be grateful to us all. Pajot, as Dr. Lindley has stated, as well as Charpentier, do not use ergot before the uterus is empty. Many of our own obstetricians do the same. One thing he regards as of extreme importance, because it confirms the conclusions naturally derived from our knowledge of the immediate action of ergot, and that is the result of the clinical studies made by Blanc and Ganzanotti, in regard to the influence of ergot in child-bed. Ganzanotti has experimented on 31 cases. He administered ergot during the lying-in period and found that instead of hastening involution ergot really hinders it. Blanc reports 82 cases. To 40 of these he administered ergot regularly for the first five days of child-bed. From 40 others of the series he withheld ergot. To 12 others he administered ergot for 10 days, and he found that in this series the uterus had attained a measurably greater involution in the 40 cases in which ergot had been withheld than in the 40 cases to which it had been administered for five days, and in these even a measurably greater involution than in the 12 cases to which ergot was given during the full ten days of the lying-in period. This is in accord with the clinical observations of such men as Pajot, Charpentier, Goodman, Reamy and numerous others whose names are perfectly familiar to us all. He was fully in accord with the principle laid down in the report of Dr. Lindley, with the pos-

sible exception of the use of ergot in abortion. It had been his habit not to administer ergot in abortion at all. The chief objection to its use in this condition is that it is so very likely to imprison the fœtus within the uterus. There are other subjects within the scope of this committee which the Chairman has left to other members, one of whom he believed would present a report on Electricity in Obstetrics. There is one point which seemed to him of the utmost importance, and that is antisepsis in labor. He believed the great progress in obstetrics within the last year had been accomplished in this direction, and as one who has strenuously advocated antisepsis not only in labor, but in surgery generally, he must confess to great satisfaction in the remarks made in his Birmingham address by that arch opponent of antisepsis, Mr. Lawson Tait, who there confessed and asserted that it is the duty of every obstetrician to adopt antisepsis in labor. A very seductive term has been invented by those who, it seemed to him, want to get back into the fold without climbing the fence, and that is the word asepsis. The object of antisepsis is asepsis. If the believer in antisepsis is certain of asepsis, his object is attained. But those who talk so much about asepsis employ antiseptics for accomplishing their purpose for disinfecting, or, as they might say, "cleansing" their sponges, their hands, their instruments and even their patients. It seemed to him that this is rather quibbling, and that in obstetrics, as in surgery, we should adopt a strict antisepsis. Let us have asepsis *via* antisepsis.

San Francisco was selected for the meeting of 1889.

The report of the

COMMITTEE ON MEDICAL EDUCATION

was read by the Chairman, Dr. J. P. Widney, of Los Angeles. The writer believed in the *multiplication of schools*, but would rigidly fix their requirements, demanding a three years' graded course, and granting only the degree of M.B., which would not qualify for practice. A medical department connected with the State University, well endowed, and providing only for the higher education, should be provided. This would grant the degree of M.D. The result would be the establishment of one standard of education, and that a high one. He would allow any student of medicine, irrespective of his tenets, if well educated through a three years' course, to enter the higher course in the State department. This would result in a better working of the medical law by making the profession a unit.

AFTERNOON SESSION.

Dr. A. M. Gardner, of Calistoga, read a paper on *Electrolysis in Stricture of the Urethra.*

Dr. W. P. Gibbons, of Alameda, read the report of the *Committee on Indigenous Botany.* He treated of the medicinal plants peculiar to the State, and mentioned the fact that some of the modern "new remedies" had been in constant use for many years past.

Dr. M. M. Chipman, of San Francisco, made a supplemental report in which the long continued services of Dr. Gibbons, both to the profession at large and to the Society, were justly recognized.

The report of the

COMMITTEE ON PRACTICAL MEDICINE AND MEDICAL LITERATURE,

was read by Dr. S. O. L. Potter, of San Francisco. He alluded to the tendency in force to confine prescribing to a single drug, and remarked that the routine prescription of former days is disappearing. He mentioned the increasing number of coal-tar products and to the possibility, as expressed by Brunton, that these artificial products might ultimately replace the organic drugs. He expressed the opinion that the germ theory of disease was at present not accepted. The two objections were, first, that in experiments it was never absolutely certain that portions of the culture fluid might not be transferred with the microbe; it was also uncertain what the exact nature of the soil on which the transportation was effected.

Dr. W. F. McNutt, of San Francisco, in opening the discussion, said that he would allude to two points: the slow progress of the science and art of medicine, and the part that microörganisms play in disease. The reason why the science and art of medicine has progressed so slowly, is probably not the fact that we run from one new medicine to another, as Dr. Potter would make us believe, but that we have been trying to develop a science by merely developing the art, or the practical part of it. There is a science and art of medicine, and the application of therapeutics is largely an art. The great future for our science is preventive medicine, and the road along which the science of medicine must be developed is pathology. The key-note to preventive medicine and the study of pathology, is etiology, and etiology is a new science. Etiology has been studied but a few years. In our student days we heard nothing of etiology, yet we can say that it is absolutely impossible to understand or develop the science of medicine or to understand pathology without etiology. Etiology, then, is the key of the scientific part of medicine. No matter what we may believe about microörganisms, etiology cannot be advanced without taking them into consideration. There is a fact in it that must be admitted or disproved, while the methods of investigation may, and ought to be, questioned, while much of it cannot be substantiated, yet, step by step, it is making way. For instance, the doctor mentioned actinomycosis. What could the pathologist do for that without understanding its etiology? We find a few abscesses, perhaps, about the angle of the jaw, and we talk of blood poisoning, but the microscope shows us the microörganism—the spreading fungi and the actinomyces—and then we understand the pathology of that disease. Take what we used to call endemic hæmeturia—How much did pathology and therapeutics do to explain it until the etiology of the disease was discovered. When we found that the parasites that produced it were confined to places in Egypt, Mauritius, Cape of Good Hope and other places, then we understood the pathology and the treatment of this affection. Take uræmic poison—What did pathologists do to explain it until we

understood that uræmic poisoning did not depend upon urea in the blood or upon ammonia, but upon the fact that the epithelial lining of the uriniferous tubules failed to secrete urea from the excretions that were producing the symptoms? Then we understood the etiology and the whole thing was perfectly plain. The path along which pathology must be developed and scientific medicine must be advanced, will depend upon our progress in the study of etiology.

DR. J. H. STALLARD, of San Francisco: As the question before the meeting seems to turn somewhat on the advancement of medicine, I probably may be permitted, as one of the oldest members of the profession present, to take exception to the position of the Chairman of the Committee, and also to that of the gentleman who has opened the discussion. When I look back, I am sorry to say, very nearly fifty years, since I was a student, it seems to me that in no profession, and in no department of science has a greater progress been made than in the art and science of the profession to which we belong. I remember perfectly well seeing one of the most distinguished physicians in my native city under the delusion that he was suffering from congestion of the brain, the result of long and arduous work, with twenty-four leeches around his head, and a considerable number of empty bottles, the contents of which he had consumed himself. I have seen the time that that gentleman thought it his duty to prescribe a quart bottle of medicine for a child 4 years old; and when no physician visited a patient, whether two or three times a day, without writing a fresh prescription, and, I say, that in this particular, and in many others, there has been a vast progress. It is forty-five years ago since I was the first practitioner in my native town to discard the principle of being paid by the amount of physic that I poured into a patient's throat; but it was the most unfortunate piece of business I ever did in my life, for I destroyed my practice for a considerable length of time. People only desired to pay for what they swallowed, and physicians would prescribe four doses of medicine a day, two to be taken at night time, with an embrocation, a lotion and a blister. But all that has now passed away. In my opinion, there is a great advancement in the art of medicine, and I do not think we have anything to be ashamed of in the progress we have made in the last forty or fifty years.

DR. A. ABRAMS, of San Francisco, believed that Dr. McNutt had slightly exaggerated the benefits derived by practical therapeutics from our advanced knowledge of the etiology and pathology of diseases. Uræmia having been mentioned, he would take this as an example. The etiology of uræmic intoxication can, for all practical purposes, be explained by the ingenious mechanical theory of Traube, or the more ingenious theory of Frerichs. The chemical theory of Frerichs supposes that the retained urea in itself does not produce uræmia, but only by its further conversion, by means of a ferment, into carbonate of ammonia. There is much clinical evidence in support of this theory, and it is accepted by most authors as correct. According to this theory, the administration of acids would at once neutralize the ammoniacal condition of the blood and cure the disease. How successful we have been with the acid treatment needs no comment. To get rid of the retained products of tissue metamorphosis by the compensatory emunctories constituted the old treatment, and it would seem to be but little modified by the recent developments of pathology. Because we know that the epithelium lining, the uriniferous tubules does not properly secrete, is but little aid to our inefficacious therapy. Bacteriology has held out more seductive inducements to therapy than any other development of medicine, and it is a sad commentary on medical science to find how disappointed we have been. Although we cannot deny the benefits afforded by antiseptic medicine, the good achieved belongs rather to prophylactic than to curative medicine. The course or duration of the infectious diseases, where pathogenic microbes have been recognized as etiological factors, have been but slightly modified by a practical therapy founded on bacteriological investigations. Our more recent knowledge of bacteriology relegates the microbes to a secondary place, attributing the pathogenesis to the development of ptomaines. To oppose the virulent action of these ptomaines constitutes, then, the future basis for rational therapy. The speaker suggested the use of the term *ptomainemia* to designate that condition following the absorption of the ptomaines.

On motion, the Society decided to subscribe for one copy of the *Index Medicus*, to be placed in the hands of the Secretary.

DR. C. CUSHING, of San Francisco, read the report of the *Committee on Gynecology*, on the subject of the Condition of the Abdominal Organs Requiring Abdominal Section. This must sometimes be done for purposes of accurate diagnosis. Cases of extra-uterine pregnancy required operation. This was frequently diagnosed at an early date. He reported a case of suppurating pelvic hæmatocele which was not cured by drainage through the vagina, and required section. Section should be performed in these cases, as it ensured thorough cleansing and perfect drainage. A prolapsed, fixed and tender ovary should, under certain circumstances, be removed. He ascribed many of the attacks following examinations by sound or other means to the expulsion of some of the secretions from the diseased tubes into the peritoneal cavity. He believed that these cases required operation. In uterine fibroids where hæmorrhage was serious, or if the tumor was large, operation was demanded. He believed that with due precaution any intelligent practitioner was justified in an emergency in performing these operations.

EVENING SESSION.

Committee on Graduating Exercises.—Dr. O. O. BURGESS, of San Francisco, reported that forty-four students had been graduated from the two colleges in San Francisco. A thorough examination of the papers had been made, and he was satisfied that the diplomas were fairly earned. The standard appeared to be fully equal to that of any other medical college, and the only point to which he would particularly

call attention, was the necessity for more thorough preliminary education. It was also recommended that in future one member of the committee be resident in Los Angeles, so that the medical college of that city might also be examined. The Society, by resolution, endorsed the recommendation.

A Medico-Legal Board.—The proposed amendment relating to the establishment of a Medico-Legal Board was brought up for discussion, and on motion was referred to the special committee on Constitution and By-laws. Several members objected to the amendment on the ground that it involved the Society, hampered the Board of Examiners, and had proved a failure in other countries.

INSTALLATION OF OFFICERS.

The business of the session being concluded, the retiring President, DR. R. H. PLUMMER, addressed the Society. He alluded to the responsibility and the labor which the presiding officer necessarily assumed. To him it had been a source of anxiety, but also of pleasure. Two years ago the Society numbered but 200 members; at the close of this meeting it included 450. The contributions had been numerous and creditable. Three years ago the annual meeting lasted for two days only, and the evening of the second day was devoted to a banquet. On this occasion it was found that three days were not sufficient, and the question of a four days' session would have to be considered. He alluded to the number of visitors from the southern section of the State, and to the number of applications for membership which had been received from that locality, and expressed the opinion that the meeting of 1890 would be held in Southern California. He thanked the members for their hearty coöperation during the year and at the meeting. In introducing the President-elect he alluded to his faithful services in the cause of the society, and to his conscientious and thorough discharge of the duties that had been assigned him.

DR. JAMES SIMPSON, the President-elect, in thanking the Society for the honor which it had conferred upon him, said that he fully realized its responsibilities. He alluded to the reorganization of the Society in 1870, when it seemed more than doubtful that it would ever attain its present proportions. He said that the officers elected were expected to sacrifice their time to the Society, and that they must give it all the attention that it demanded. He concurred in the opinion of Dr. Plummer, that the meeting of 1890 would be held in the South. The State was a large one, and members must expect to travel considerable distances. In conclusion, he promised to use every effort on behalf of the Society, and to do good and faithful work.

New Members.—At the different sessions the following were duly elected members of the Society:

Adams, George	Mack, W. E.
Alford, F. A.	McGonagle, Beverley
Anderson, A.	Maynard, H. H.
Bailey, J. E.	McDougall, W. D.
Barber, D. C.	Melton, Lewis
Bicknell, F. D.	Merritt, Emma S.
Booth, Jas. P.	Merritt, Geo. W.
Borde, H. J.	Miller, J. H.
Boyce, J. F.	Murphy, W. W.
Brainard, H. G.	North, Thos.
Brummet, S. B.	Northup, D. B.
Carpenter, Lewis	Otto, G. W.
Cook, Wm. Harris	Paterson, E. M.
Crepin, E. A.	Pearson, J. E.
Darling, A. F.	Pond, R. B.
Davis, T. A.	Posey, A. C.
Dodge, Wm.	Reading, J. W.
DuBois, H. A.	Rogers, A. C.
Foote, Gilbert	Senftleben, Hugo
Forrest, John M.	Siefkes, John L.
Hart, A. J.	Smith, E. R.
Haynes, F. L.	Snider, J. R.
Hogshead, A.	Shearer, M. M.
Holland, L. T.	Stockton, Thos. C.
Johnson, Chas. M.	Szigerthy, A. C. H. de
Jones, Caleb V.	Taylor, Albert M.
Knox, S. P. P.	Todd, J. C. R.
Kurtz, James	Thomas, George P.
Larkin, John	Trembley, F. X.
Lasher, Geo. W.	Valle, Charles C.
Leonard, J. T.	Wharry, Charles J.

THE EXHIBITION.

A spacious room, adjoining the large assembly hall, was well filled by the various firms who were anxious to attract the attention of the Society. This feature was a great success—in fact it proved so attractive that on several occasions during the meeting committees were appointed to bring in the members who were sampling the junket and cocoa and stocking their pockets with pills and powder, baby food and concentrated nutriment for all ages.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, April 5, 1888.

THE PRESIDENT, T. M. DRYSDALE, M.D., IN THE CHAIR.

(Continued from page 530.)

DR. PARISH presented the

SPECIMEN OF A STRANGULATED OVARIAN CYST.

The patient was not aware that anything ailed her until one night she was seized with intense abdominal pain and, jumping out of bed, rushed about the house screaming with the suffering. Dr. J. H. Musser was sent for and gave her a hypodermic injection of morphia. The dose had to be repeated frequently, and in two days the pain began to subside, it being altogether gone in five days. The temperature remained nearly normal until the fourth day, when it was found to be 103°, and was the same on the next day, the day of operation. A notable fact is that the temperature and pulse both rose steadily while the pain as steadily decreased after the third day. I saw her on the fourth day, and agreed with Dr. Musser that we had an ovarian tumor with a twisted pedicle to deal with. Because of the absence of the husband the operation was not performed until the next day, January 17, 1888. The tumor was found to spring from the left ovary and was very black, in this respect differing entirely from an ordinary ovarian cyst. The contents were those of an ordinary cyst with coagu-

lated blood in addition. The pedicle was twisted three times and was quite soft and black. After emptying the tumor he untwisted the pedicle and transfixed it below the point of twist, and the tumor was removed. The recovery was very rapid, the temperature going down steadily. The drainage-tube was removed on the second day. The patient is now entirely well.

Twisting of the pedicle is a well recognized accident to ovarian tumors, but the cases do not all present such marked changes as this case did. The specimen as it lay on the plate presented a marked contrast to the cyst lying beside it, and which had been removed a few days before from the broad ligament.

In connection with this case he would report one operated on three months ago. The woman had complained of sudden intense pain in the pelvis and was confined to her bed from that moment; she had remained in bed for over two months with general peritonitis. A number of physicians had attended her, and one of them had introduced an exploring needle into the abdomen. She was extremely exhausted and had a constant temperature of 103° or higher. An incision was made above Poupart's ligament, and opened into a tumor. It was found to contain pus and coagulated blood. Its cavity was cleansed out and the incision closed around a drainage-tube. The cyst walls were very thick. It was a blood cyst, but it could not be determined at the time with certainty whether it was intra- or extraperitoneal, but it was believed to be intraperitoneal. In three days strangulation of the bowels developed with fæcal vomiting. The bowels could not be gotten open, and a second operation was proposed on the next day, but was refused by the friends. On the day after, however, a second incision was made from a point under the spleen towards the old incision above Poupart's ligament. There was a distension of the abdominal walls in the lumbar and hypochondriac regions. Great pain under the spleen had developed. The intestines were found adherent in a mass, and three large bands were found to extend from the region of the spleen to the right inguinal region. The adhesions were broken up and these bands were ligated and cut off. No irrigation was used. The whole wound was closed, and a large piece of adhesive plaster was placed over it to protect it from the discharges from the lower and first incision. Convalescence was slow, but had finally terminated satisfactorily.

DR. BARTON HIRST reported

TWO CASES OF HYDRAMNIOS.

The etiology of hydramnios is so obscure that, according to Bar, 44 per cent. of all cases admit of no explanation. Every case, therefore, that can be traced to a distinct cause must possess some degree of interest.

Case 1.—A young primipara was brought to the maternity pavilion of the Philadelphia Hospital in the first stage of labor. External examination showed an enormously distended abdomen of a globular shape, giving distinct fluctuation. Internally the os was about the size of a dollar. An amniotic sac, very tense, filled up the greater part of the pelvis; to one side and above this could be felt a small fœtal head, evidently macerated, covered by its membranes with no intervening liquor amnii. The diagnosis was plain: twin pregnancy; hydramnios of one amniotic sac, which was acting as an obstruction to labor by preventing the descent of the fœtus contained in the normal sac. The distended sac was ruptured. The edges of the rubber sheet upon which the woman lay were gathered up and all of the escaping fluid was caught. It measured 5 quarts. The macerated fœtus was then expelled and a living one followed soon after. The latter corresponded in development to about the eighth month of pregnancy; the former had apparently died at an earlier period of intrauterine life. The woman said that until within five weeks she had noticed nothing unusual in her condition, but that since that time the abdomen had rapidly increased in size; without, however, causing her much inconvenience. To explain this case of hydramnios Werth's theory must, I think, be called upon. According to this observer, an hypertrophied placenta, in absorbing more fluid from the maternal blood than the fœtal economy can dispose of, brings about hypertrophy of the fœtal heart and kidneys and a consequent polyuria. And, in addition to this, the increased pressure within the umbilical vein favors a transudation of fluid through the amniotic covering of the placenta. In the case under consideration the placenta was quite double the size of a normal single one, with extensive anastomoses between the two sets of fœtal vessels. One fœtus having died, the other was suddenly called upon to deal with the very large quantity of fluid abstracted from the maternal blood by an enormous placental surface—an impossible task, so that the excess of liquid had to be gotten rid of by excretion and transudation into the amniotic sac.

Case 2.—Hydramnios in a multipara, with serious heart disease. Mitral regurgitation and aortic stenosis. The quantity of liquor amnii was estimated to be 4 quarts.

If one accept Tarnier's idea all cases of hydramnios may be divided etiologically into two broad classes, depending either upon over-production of liquor amnii or upon insufficient absorption of the amniotic fluid. In the latter division it would seem that one should put this case. The veins were choked with blood, the circulation was sluggish to a degree, and if it is true, as it seems to be to my mind, that some of the liquor amnii is absorbed by the maternal vessels, the absorption here was reduced to a minimum.

DR. HIRST also presented the following report:

I was recently called by a medical student to see a woman with an adherent placenta and post-partum hæmorrhage. I found the patient almost exsanguine and the fœtus dead. The woman's friends declared that the baby had been born while the woman was on her feet, had dropped upon the floor and had been killed by the fall; they further asserted that the afterbirth had not come away. A vaginal examination showed no trace of cord or placenta; the hand,

however, passed into the uterus, discovered the placenta glued fast to the uterine wall and so tightly adherent that considerable force was necessary to detach it. The cord had been torn away from the fœtal surface of the placenta, leaving a spot about the size of a dollar bare of amnion. The large branches of umbilical vein were torn across.

Dr. J. Price made a

COMPARATIVE REPORT OF HOSPITAL AND OUT-DOOR OBSTETRICAL CASES.

I do not wish to discuss at length the old question of home vs. hospital practice in obstetrics. The whole matter has been fully discussed and some excellent books published on the subject. Maternity hospitals must exist for destitute women when they need both shelter and assistance. To compare the results in out-door practice where patients reside in unsuitable and unsanitary locations with the results of a well organized maternity hospital is impracticable without an immense amount of labor and statistics.

We all struggle to secure the prevention of deaths during childbirth. The diminution of maternal mortality is the chief object of our obstetrical art.

In an established maternity hospital we find difficult and complicated cases, a constant quality in a class of patients particularly prone to accidents incident to parturition. This class of cases, particularly among the poor, cannot receive the attention of trained attendants at their homes, and hence are admitted to hospitals because skill can do more there in averting danger and death. There are many cases which foil the most consummate skill. Again, there are simple complications which defeat the inexperienced physician and the midwife.

In the "Retreat" I aim at the highest degree of surgical cleanliness. Distance dirt and all goes well. All effete matter and refuse is removed at once from the building. The air in the wards is kept in motion. Every attention to matters of detail, especially to kindly and cleanly nursing, is insisted on. I have never been able to understand why the results of out-door practice among the poor, who have inadequate means of procuring the necessary comforts of life even in health, and who have made no provision for themselves for childbirth, should be perceptibly better than the results in hospital practice. I am aware that the statistics of out-door lying-in patients have been pronounced wholly worthless and unreliable. In order to satisfy my own mind in regard to this question I have made careful analysis of the cases coming under my own practice during a period of almost three years.

The rule in regard to dispensary cases has been attendance by graduates or students of medicine during confinement and recovery, for at least ten days and in the same manner as in private cases, all complications requiring the presence of myself or some one with experience. This rule has been carefully enforced. All accidents in cases of difficult labor have been due to delay in asking for assistance. Delay is dangerous, promptitude is everything.

HOSPITAL PRACTICE, PRESTON RETREAT.

Number of confinements, 101; vertex presentations, 98; breech presentations, 2; missed labors, 1;[5] induced labors, 2; contracted pelves, 2; syphilitic mothers, 3; syphilitic children, 3; children dropped in gutter, 1;[1] placenta prævia, 2;[2 3] lacerated perineums (closed) 6; forceps delivery, 9; version, 2. Multipara, 74. Primipara, 27. Previous miscarriages: 1 had 19; 2 had 4; 3 had 3; 5 had 1. No deaths. Boys, 54; girls, 48; twin labor, 1. Still-born males, 2;[4] still-born females, 2. Hare-lip, 1. Cleft palate, 1.

PHILADELPHIA DISPENSARY, OUT-DOOR DEPARTMENT.

Confinements attended, 758. Vertex presentations, 738; breech presentations, 9; foot presentations, 6; shoulder presentations, 3; face presentations, 1; transverse presentations, 1. Complex labors, 1; induced labors, 2; twin labors, 3; forceps deliveries, 24; version deliveries, 4. Adherent placenta, 9; retained placenta, 2. Rachitic pelves, 2 (one craniotomy and one forceps delivery, death). Contracted pelves, 3. Large head, 2. Double inguinal hernia, mother, 1. Dropsy of amnion, 1. Uterine fibroids, 1. Prolapsed cords, 3. Placenta prævia, 4. Atresia of cervix, 1.

ACCIDENTS OF LABOR.

Lacerated perineum and cervix, not closed, 10; closed, 19. Delivered at stool, 1; delivered on floor, 1; premature labor, 7.

MOTHERS.

Pregnancy.—Primiparous, 191; second, 136; third, 99; fourth, 61; fifth, 65; sixth, 45; seventh, 37; eighth, 30; ninth, 28; tenth, 21; eleventh, 5; twelfth, 7; thirteenth, 3; fourteenth, 2; fifteenth, 1; sixteenth, 1; seventeenth, 1; eighteenth, 1.

PREVIOUS MISCARRIAGES.

One miscarriage, 104; 2 miscarriages, 48; 3 miscarriages, 14; 4 miscarriages, 9; 5 miscarriages, 5; 6 miscarriages, 3; 7 miscarriages, 1; 9 miscarriages, 1.

Deaths.—Septicæmia, 2; pneumonia, 1; died undelivered, 3; placenta prævia, great hæmorrhage, tampon, 1. Mortality, .005 per cent.

CHILDREN.

Males, 395; females, 334. Still-born males, 22; still-born females, 13.

Died during attendance: Apoplexy of the cord, 1; hæmorrhage of bowels, 1; debility, 3.

These patients were all attended at their own homes.

Dr. Hirst said that the speaker was to be congratulated on the low mortality of the out-door cases. He had himself some months ago collected statistics of the American hospitals and of general obstetrical practice, and had been convinced from this and other investigations that the mortality of parturient women

[1] One child was dropped in the gutter as the mother alighted from a carriage to enter the hospital. No injury to child or mother. As there had been no antiseptic preliminary treatment, the case was carefully watched. No symptoms of septic trouble set in; patient was absolutely comfortable during convalescence. Neither doctor nor nurse were responsible for the accident.

[2] Membranes punctured. No hæmorrhage when head engaged. Patient exhausted by loss of blood and extreme heat of day, and was assisted by forceps.

[3] Placenta prævia centralis. Version and delivery twenty minutes after admission. Hand not withdrawn after introduction for examination. Hæmorrhage great; patient exhausted.

[4] Dead probably one month before delivery, due to fall in cellar.

[5] Foot protruding from vagina when admitted. Forceps. Child living.

in the latter class was about 1 per cent. Of some 10,000 cases collected in England the mortality had been .95 of 1 per cent.

DR. LONGAKER thought that, in consideration of the small number of times the forceps had been used, the fœtal mortality of the out-door cases was not surprising. Had the forceps been used more frequently the death-rate would have been less. Not more than about one child out of fifty should be born dead.

DR. WM. GOODELL read a report of his

CASES OF LAPAROTOMY DURING THE YEAR 1887.

He had 53 of them, as follows:

Ovariotomy—27 cases, 22 recoveries, 5 deaths.

Oöphorectomy—19 cases, 18 recoveries, 1 death.

Hysterectomy—1 case, 1 recovery.

Malignant tumor of omentum—1 case, 1 death.

Pelvic abscess—2 cases, 2 recoveries.

Exploratory incision—3 cases, 3 recoveries. Total—53 cases, 46 recoveries, 7 deaths.

He showed a table giving the name of the medical attendant of each case, and the place and time of the operation.

With regard to the fatal cases: the first one was a case of malignant papillary cyst of both ovaries, by which every abdominal organ seemed to be infected. Bleeding intestinal adhesions needed several ligatures and the application of Monsel's solution. Unsurmountable obstruction of the bowel took place and the woman died on the seventh day.

The second fatal case was in a short but exceedingly fat woman, weighing 254 lbs., who could not walk without assistance. The area of raw surface made by the deep and long abdominal wound was the most extensive Dr. Goodell had seen. Both ovaries being diseased, were removed; they had contracted adhesions to the abdominal wall, and the larger weighed only about twenty pounds. The lady was operated on at her own home in the country and was not again seen by Dr. Goodell. She died on the fourth day from peritonitis.

The third case was a forlorn hope. At the time of the operation she had septicæmia, she was delirious and very ill indeed, and suffered great pain. By her shrieks she disturbed one whole floor of the University Hospital, although she was on that account confined in a remote room. The cyst was intra-ligamentary and was adherent to the abdominal wall, the intestines, the stomach, the aorta, the womb, and to the whole pelvic basin. All the adhesions but the pelvic ones were severed; but the latter were not touched, as the woman seemed to be dying, and it was apparent that she could not survive the shock of a completed operation. Many stimulating hypodermic injections were given during and after the operation, but she never rallied and died seven hours later. The fourth was a bed-ridden and very emaciated woman, in whom the cyst had burst several weeks before, and she was being slowly poisoned by the absorption of the colloid matter. The cyst had universal adhesions and every abdominal organ seemed infected. The peritoneal cavity was flushed and drained. The patient died on the eighth day from sheer exhaustion. The fifth death took place in a case of putrid and rotten dermoid cyst. The woman was also bed-ridden from septicæmia. During the operation, while very firm adhesions were being severed, the cyst wall was torn and a very small quantity of the offensive fluid escaped into the abdominal cavity. This was flushed and drained, but the lady died on the fifth day from septicæmia.

Of the nineteen oöphorectomies there were an unusual number of difficult cases, both on account of adhesions and of the size of the fibroid tumors, for which the ovaries were removed. In the sole fatal case death was due to uræmia from suppression of the urine, unsuspected kidney mischief probably having previously existed.

Of the seven remaining laparotomies, one resulted in death on the forty-eighth day. It was a case of malignant solid tumor of the omentum, causing ascitis and excessive pain, from which the patient had been confined to her bed for many weeks. The great vascularity of the parts and the very extensive adhesions to the bowels made the operation a difficult one. For two weeks the patient did well, then large abscesses burst out of the wounds and into the intestines, and the drain destroyed her life on the forty-eighth day after the operation.

In the two cases of pelvic abscess the sac was sewed to the lips of the abdominal wound and a drainage-tube put in. In the case of hysterectomy, a two pound subperitoneal fibroid of the wound was removed, on account of pain and vesical irritation caused by it. The three exploratory incisions were made respectively for sarcoma of the womb and ovaries; for malignant disease of the intestines; and for a fibroid of the womb. In the last one it was the intention to remove the ovaries, but on account of very firm and deeply seated adhesions, those organs could not be reached. In the other two cases of the exploratory incisions, malignancy was suspected, but the operation was performed to make out a positive diagnosis.

Among the twenty-seven ovariotomies there was a larger number of difficult cases than usual; nor had he refused to operate in any case offered him. In sixteen both ovaries were removed. Twenty-three had adhesions, and drainage was resorted to twelve times. In three the adhesions were universal; in six firm intestinal adhesions existed; while in three the cysts were intra-ligamentary, presenting very formidable obstacles to their removal. In one of these last cases the result was successful, although the wound had to be reopened four hours later to stop a deeply seated hæmorrhage, and although a fæcal fistula was established by injury to the rectum.

DR. KELLY remarked that he had been especially pleased with the careful consideration given by Dr. Goodell to certain points in the handling of abdominal cases, which were too often looked upon as a minor matter in the treatment, but are after all the *essentials* of success. One of the most important of all matters is the checking the hæmorrhage from adhesions to intestines, etc. A satisfactory way of checking hæmorrhage from smaller areas on the abdominal wall is by passing a needle under the peri-

toneum and carrying several threads across the bleeding area, and upon tying these threads, bring raw surface to raw surface. He had seen Dr. Zweifel, of Leipsic, invert a *large* bleeding area on the abdominal wall, and transfixing skin, muscles and peritoneum from without fasten a number of sutures to ivory rods on either side of the skin-flap thus formed. He had frequently used the cautery, in times past, but not recently. In a recent case of severe general hæmorrhage from the base of the whole broad ligament after removing a distended Fallopian tube, he had checked the bleeding by a series of ligatures enclosing the whole broad ligament from its pelvic attachment to the uterus, introduced entirely beneath the raw surface.

A practical point of the utmost importance upon which he would insist is that when the bleeding is checked all the danger is not obviated, whenever there has been much stripping of peritoneal adhesion; in spite of the fact that the bleeding may have been checked, a lymph flow sometimes profuse is often poured into the abdomen, and if it is not carried off at once by the peritoneum it forms an excellent culture field for the few bacteria which are almost sure to enter at any operation. The drainage tube meets this danger.

He has had a good many cases of rectal fistula which have been very troublesome, but the tendency here seems to be to heal. The peculiar liability of pus cases to this accident is readily accounted for by the tendency of the ulcers to form rectal adhesions and ulcerating through, to evacuate itself. In many cases the wall between the abscess and rectum must be very thin. The best after-treatment in abdominal cases is to put them in the hands of a trained nurse, and leave much to her judgment.

Dr. Goodell liked to give credit to his fellow-countrymen whenever he could, and if he was not mistaken the credit of first doubling peritoneum on itself and maintaining bleeding surfaces in contact by pins or quill sutures, was due to Dr. Kimball, of Lowell, Mass. Several years ago Dr. Goodell had resorted to this plan, but not since he had used Monsel's solution or the thermo-cautery.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, April 25, 1888.

The President, J. Solis-Cohen, M.D., in the Chair.

Dr George McClellan reported a case of

AMPUTATION OF THE LEFT HALF OF THE TONGUE FOR EPITHELIOMA.

Michael G., an Irishman, aged 40, was admitted the first of this month to my ward at the Philadelphia Hospital. He stated that he had never had syphilis, and that his general health had always been good—which was borne out by his appearance. He had always been an intemperate smoker of a short-stemmed pipe. Six months ago he first experienced sharp and shooting pain extending from the root of the tongue on the left side down the neck and over the face. A small sore was noticed on the side of the tongue about its middle, which rapidly increased until, at the time of admission to the hospital, it was the size of a half dollar. Articulation and deglutition were interfered with, and there was a constant flow of saliva. There was also, apparently, an enlarged gland in the submaxillary triangle. I diagnosed the disease to be epithelioma, and undertook its removal by amputation on April 11, just two weeks ago. An incision was made from the symphysis of the chin, a finger's breadth below the jaw as far as the external jugular vein; the deep cervical fascia was torn through with the fingers and knife handle, and the swelling, which was under the sterno-mastoid muscle, proved to be a degenerated gland, or rather cyst, which was filled with thick, cheesy matter. The cyst was evacuated of its contents, the cyst wall torn out as much as possible, and the lingual artery, which was exposed in its relation to the hyoid bone, the hypo-glossal nerve, and digastric muscle, was secured by a ligature. The anterior belly of the digastric was severed, and the mylo-hyoid muscle with the oral mucous membrane punched through with the finger, and the tongue having been freed from its frænum and pierced at its apex with a strong needle and string, was pulled down into the wound in the neck, as I hoped by so doing to be able to take away the diseased portion by the first incision. This proved unadvisable, owing to the short, thick neck of the patient, and would have endangered the carotid and deep vein, and I at once cut through the commissure of the mouth, and, after trying the coronary arteries, pulled the tongue forward, passed a trocar and canula through the middle of its base close to the hyoid bone, the trocar was withdrawn, and the chain of an écraseur was passed through the canula, and, after withdrawing the latter, I found the écraseur worked admirably. I then cut off the affected half of the tongue close to the raphé, and was able to show my assistants that the only bleeding vessels from the tongue itself were at its apex. A ligature secured these, and the stump was lightly touched with the Paquelin cautery. Both wounds were then united by interrupted silk sutures and dressed antiseptically. There was a rise of temperature to 103° the evening following, which was reduced by quinine suppositories and sponging. Since then it has been about normal. There was a great deal of venous bleeding during the operation, but very little arterial, owing to the early and prompt securing of the lingual and branches of the facial. Cracked ice and iced milk only were allowed the patient for the first twenty-four hours. The wounds were found healed at the first dressing on the third day, and this morning, (April 25), I saw the patient sitting up in a chair, dressed and wishing to go out. He has had no pain whatever, and talks perfectly, and takes nourishment better than for a long time before the operation.

Dr. G. G. Davis: I would like to ask Dr. McClellan where he tied the lingual artery. It is usually taught that the proper place to expose this ves-

sel is in the digastric triangle. My own experience, in teaching the operation upon the cadaver, is that it may often be more readily found and ligated behind the digastric, thus obviating the necessity of cutting through the mylohyoid muscle. In the hip-joint excision it would be interesting to know how far down the shaft of the bone was removed. If a preliminary resection of the joint and shaft low down is practiced, and afterward an amputation through the thigh performed, I believe that the operation will be of much less gravity than if the whole operative procedure is undertaken at one time. Of course, this refers only to cases in which the condition of the patient is such as to make a primary hip-joint amputation too dangerous.

DR. MCCLELLAN: The lingual artery is not difficult to secure. The land-mark is the great cornu of the hyoid bone, and by making a curved incision parallel to the angle of the lower jaw, over it, we can readily expose the looped tendon of the digastric muscle and the stylo-hyoideus. Here the hypoglossal nerve is found, and the lingual artery passes immediately behind it.

It will be remembered that there was a great mass in the neck, probably due to secondary involvement from the growth on the tongue. The first incision was made with the view of removing the gland and bringing out the tongue laterally by the same means of access. The gland was found beneath the sterno-mastoid muscle, and a dissection to expose it would have endangered not alone the carotid, but the deep jugular, which I am loath either to wound or to tie. I therefore tore out the cyst after discharging its contents, and then brought into view the parts over the lingual.

In looking over the history of excision of the tongue, I have been struck with the fact that the different methods adopted all have points worthy of consideration in different cases. The operation of cutting through the symphysis is sometimes practiced, also the horseshoe sub-mental incision. The lateral operation is applicable only in a long, thin neck. It could not be performed in a short thick neck. The other operation of simply cutting through the oral commissure is very easy and simple, and exposes the parts sufficiently in all cases where the disease is situated behind the middle of the organ. If we simply remember that the deep cervical fascia which loops down the two bellies of the digastric muscle also covers the artery and nerve, we need have no difficulty in finding the lingual, and it is readily distinguished from the nerve which lies in front of it, both upon the cadaver and living patient. The difficulties sometimes experienced in operating on the former are due to the relation of the parts not being properly remembered.

DR. GEORGE MCCLELLAN reported a case of

EXCISION AT THE HIP, FOLLOWED BY AMPUTATION.

Riocco V., the Italian, whose limb I amputated after having previously excised the hip, presents some points of unusual interest. He came to this country at the age of 18, and while on shipboard had a fall, to which he attributed the trouble in his hip. He worked for six years at his trade as stone-cutter, and was finally admitted to the Philadelphia Hospital two years ago, with symptoms of hip-joint disease, and a right basal pneumonia. After recovering from the latter, an incision was made over the great trochanter, and pus evacuated, but excision was not done, owing to his generally bad condition. When I went on duty at the hospital, March, 1887, I found the patient with a temperature of 104°, and profuse suppuration. I at once excised the head of the femur below the trochanters, and scraped the acetabulum, which was carious. Instant relief followed, as is evidenced by the chart, and within three weeks of the excision I amputated the thigh. The patient made a rapid recovery, and the wound healed, with the exception of one of the lateral margins, which continued to discharge pus and sanious matter until a piece of drainage tube was removed spontaneously, one month ago. He is now fat and hearty, and, although not a beautiful specimen of humanity, is a remarkable instance of what the system can endure after long exhausting suppuration.

As far as I can remember, Mr. Furneaux Jordan was the first who recommended excision of the head of the femur in cases requiring amputation at the hip, in order to diminish shock. The photograph shows long flaps. This is due to the fact that I first excised just below the trochanters, and later at the amputation simply made an incision over the shaft of the bone down to the middle of the thigh. There was very little hæmorrhage. The femur was found on removal to be necrosed all the way to the articular surfaces of the condyles.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Management of Shipping—National Pension Fund for Nurses—Abdominal Puncture in Tympanites—Opium-smoking in London—Curious Accident to an Eye—Purification of the Thames—The Galen Club.

Dr. Collinridge, Medical Officer of Health for the Port of London, in his report for the latter half of 1887, shows that considerable progress is being made in the sanitary management of shipping. During the six months over ten thousand vessels were inspected, nearly 88 per cent. of which were sailing under the British flag. In thirteen cases the ships were fumigated, five on account of small-pox, two for measles, two for enteric fever, one for scarlatina, one for yellow fever, one for chicken-pox, and one in consequence of the condemnation of its cargo of over 5000 quarters of beef. Altogether some sixty-four cases of infectious illness were reported, in the majority of which proper disinfection had already been applied by the authorities of the particular ships. In one instance, however, it seems that a vessel with three cases of small-pox on board was passed by the medical officer at Plymouth and allowed to land six men

there while the patients were sent on to London in order to avoid the two or three hours delay which would have been caused by landing them. The Local Government Board thought not only that this proceeding but the explanations offered of it were unsatisfactory.

Mr. Henry C. Burdett is to be congratulated upon the success which has at length crowned his persistent efforts to found a National pension fund for nurses. Lord Rothschild, Mr. H. H. Gibbs, Mr. E. A. Hambro and Mr. I. S Morgan have each deposited £5,000 as security for annuitants and policy holders, thus supplying the reserve without which the effort must have failed. The scheme provides a number of methods by which nurses or other officials employed in hospitals or kindred institutions can provide for their old age and secure assistance in time of sickness. It is proposed to guarantee a certain minimum pension of £15, £22 10s. or £30 a year, in return for quarterly payments which vary in amount according to the sums assured, the age at which such payments begin and the age at which the pension is to be received. By slightly larger payments a sick allowance of from ten to twenty shillings a week can be secured. By another arrangement two-thirds of the premium can be made payable at the age of 50, the remaining third not commencing till ten years later. All these schemes are guaranteed, but it is hoped that the bonus fund will make it possible to raise the £15 pension to £26 and to add to the other sums about one-third of their respective amounts.

An exceedingly interesting case of treatment of tympanites by abdominal puncture, came up before the last meeting of the Hunterian Society. The patient, a man aged 46, came under treatment during the autumn of last year, with vomiting, paroxysmal pain, and constipation of about ten days' duration. Examination of the abdomen showed considerable fullness, but no humor could be discovered, and rectal examination revealed nothing. Enemata and the passage of a tube revealed nothing. The patient would not consent to colotomy, therefore puncture of the intestine to relieve distension was resorted to as the only treatment which promised relief. Eight punctures were made, with considerable relief to the distension, but a violent attack of peristaltic contraction set in about an hour after it. Three days later the intestine was again punctured in three places, and in order to prevent peristalsis, two precautions were taken, namely, hypodermic injection of morpho-atropine and use of a large aspirating needle. No violent peristalsis followed, and a very large amount of gas was liberated. Forty-eight hours later the bowels were opened. All went well for fourteen days, when symptoms of obstruction again returned, and puncture again became necessary, the same precautions as previously being taken, and in the course of the following three weeks puncturing was four times repeated. Although great temporary relief was obtained, the patient gradually sank. At the autopsy an annular stricture was discovered in the first part of the rectum, but no evidence of peritonitis or extravasation of fæces, and with the exception of certain small spots, no trace of the puncture was visible in the wall of the bowel.

It is not surprising that the attention of medical men, as well as of philanthropists, has been directed to the increasing prevalence of the vice of opium-smoking in the neighborhood of the London docks. At the present time there are seven opium dens within a short distance of one another, and it is also a melancholy fact that in the same places of resort may be found many English women of the lowest class. The medical journals have suggested that the State cannot afford altogether to ignore this state of things. It is stated that a nurse who, for the purpose of washing out a bottle which had contained glycerin, poured some nitric acid into it, with the result that the bottle burst in her hands, and that her face was severely burned.

A strange accident recently happened to one of the attendants at a hippodrome in London. The man suddenly felt his eye cut with, as he supposed, a pebble kicked up by one of the ponies who were being trained. He was admitted to the West London Hospital, and on the following day, there being severe panophthalmitis, the operation of enucleation was performed with the best possible results. A curious thing was that, although the man was at the time of the accident standing beyond reach of the whip, a knot of a whip was found to have pierced the ball just below the horizontal meridian of the corneo-sclerotic junction and to have become imbedded in the vitreous humor. It was supposed that the thong had become heated and the knot detached had flown off at great speed.

Some of the members of the Board of Works proposed that 100 tons a week of the permanganate of soda should be used to purify the water of the Thames during the ensuing summer. It was argued that about £40,000 worth of permanganate would be required during the year. The subject was eventually, after much discussion, referred to a select committee.

Medical men have now a new club at the West end styled the "Galen Club."

DOMESTIC CORRESPONDENCE

HOW IT STRIKES THE COUNTRY PRACTITIONER.

Dear Sir:—When the country practitioner of today takes up his medical journal he reads with awe not unmixed with incredulity, the earnest discussions of his city brethren of the healing art, as to whether the obstetric practitioner should or should not be held legally responsible for his puerperal fever cases unless he douche the vagina and himself with a two per cent. solution of the bichloride. And it quite naturally occurs to the aforesaid c. p. to wonder why puerperal fever is a disease of the cities and dense centres of population where these things are done, and is almost unknown in the rural districts where such refined methods do not prevail. I venture the assertion that not one country practitioner

in fifty uses any antiseptic precaution beyond cleanliness.

Who, more than this same class, who by turns are called into the domain of surgery, gynecology, medicine and obstetrics, would more likely become contagion bearers. His manifold and varied duties invite to habits of carelessness if not slovenliness in person and attire. When in the presence of the spotless dress and immaculate person of his city brother, he bashfully pockets his hands, well knowing that hands which harness his horses, and blacken his boots, if they do not even carry the soft coal on wash days when his wife does the cooking while the one servant, maid of all work, is busy with the washing, will hardly compare in silky softness and pinkness of nails with the taper digits of his esteemed confrère. But are these stubby fingered, browned and blistered hands any less capable of conveying contagion, of being coated over with the subtle and invisible microörganisms which haunt the day dreams of the germ*aniac*? "If not, why not?"

During a practice of six years in Central Illinois it was my fortune to attend between two hundred and three hundred cases of labor. The only fatal case I ever saw in child-bed at term was a lady who was suffering at the time of her confinement, and had been for three days, from a violent attack of facial erysipelas, from which, quite naturally, was evolved a puerperal peritonitis, which speedily proved fatal. All but this auto-inoculated case progressed quite favorably, and none more so than those immediately succeeding this one. It is but fair to add that owing to the nature of this case, I washed my hands and arms thoroughly in carbolized hot water before taking charge of another. Have never used an antiseptic vaginal douche except to correct the fetor of the lochia some days after confinement.

These cases occurred in all walks of life, from the one-room hovel of the extremely destitute where a large family existed, and where it was contamination to touch the dirt begrimed bedding on which the accouchement occurred, to the spacious and elegant country home of the well-to-do farmer, where the sheets were of snowy whiteness and where the microörganism would find himself in constant danger from the onslaught of scrubbing brush, dust cloth and broom. Add to this the nervous anxiety of a man often far from home and worried about other cases dependent upon him, and it goes without saying that there were frequent and prolonged vaginal examinations with attempted digital dilatation of the os. Shades of Semmelweiss, how did any escape! The only antiseptic precaution, if such common decency and prudence can be so called, was washing the hands in clean water and soap and cleaning the finger nails before the first examination.

When an undergraduate I remember our professor of obstetrics opposed frequent digital examinations on the ground that it needlessly removed the lubricating mucus so liberally supplied to the parturient canal; but does not an aqueous douche have the same objection? I know practitioners who have attended their thousands of cases without a fatal puerperal case, and who have practiced no preliminary antisepsis but strict cleanliness.

The fact is, there appears to be a medical tendency to take up every European suggestion or hypothesis as our young men excuse oddities in dress by saying, "It's so English, you know."

Some years ago we had 40 and 50 gr. doses of quinine for hyperpyrexia, with perhaps a sudden cold bath as antipyretic in typhoid.

The latest fad is this germ-mania. A physician in a certain city not three hundred miles from Chicago was called in excitedly by an anxious soon-to-be father, whose chosen *modern method* attendant he had not found at his office. But before Dr. Ordinary could get there Dr. Extraordinary had returned and answered the call. When our friend Dr. O. arrived he was ushered unceremoniously into the sick chamber, and though an old man of years of obstetric experience, he blushed at the sight that met his gaze, and retreated precipitately, for there, alone with his patient, sat Dr. Extraordinary carefully *sponging his patient's nude body* with, it is *presumed*, the orthodox two per cent. solution. Not a thread of germ-concealing garment had this poor victim of a modern idea. This may do for a Vienna hospital, but is the modesty and loveliness of American womanhood to be sacrificed on the altar of this attenuated micro-organic moonshine?

This is the "whither" of our tendency unless somebody calls a halt, or at least that is the impression of at least one COUNTRY PRACTITIONER.

STATE MEDICINE.

State, Interstate, National and International Sanitary and Quarantine Code, Prepared for the United States of America.

BY JOSEPH JONES, M.D.,
OF NEW ORLEANS, LA.
PRESIDENT OF THE LOUISIANA STATE MEDICAL SOCIETY, ETC.

(Extract from Report on Organization, April 25, 1888.)

In my address to the regular medical profession of Louisiana on November 14, 1887, it was not the intention of the brief observations relating to *Public and International Hygiene* to revise any organization such as the National Board of Health, or to give any support to the Bill recently introduced into the United States Congress (H. B. 1,526): "*To prevent the Introduction of Contagious and Infectious Diseases, and to establish a Bureau of Health,*" or to disparage the value of the labors of the United States Marine Hospital Service, or of existing boards of health.

Our defense of the police powers and quarantine laws and system of Louisiana against the persistent and unjust attacks of the National Board of Health has been fully and permanently placed on record in the *Reports of the Board of Health of the State of Louisiana* for 1880, 1881, 1882 and 1883; and we are not disposed to revive old issues.

The imperfections of the Bill (H. B. 1,526) now before Congress are fully set forth in the letter of the Secretary of the United States Treasury to the Committee on Commerce, bearing date Washington, D. C., Treasury Department, February 21, 1888.

Our views may thus be formulated:

1. It is important that uniform quarantine laws should be formulated for the entire Republic, as will be manifest upon the consideration of the following:

(*a*) The population of the United States of America now exceeds forty millions, and is rapidly increasing.

(*b*) The United States, in virtue of its central geographical position, between the Atlantic and Pacific Oceans, and with the Gulf of Mexico, the Antilles and the Republic of Mexico on the south, is perpetually exposed to the introduction of foreign pestilence.

(*c*) The United States, either annually or at certain intervals, is exposed to the introduction of small-pox and cholera from Europe and Canada; to the introduction of leprosy and small-pox from China and Japan; and to the annual introduction of yellow fever from the Antilles and the Republic of Mexico, and the Central and South American cities.

2. The *Police Powers* of the several States and Territories composing the great American Republic should be fully recognized in any system of internal and external sanitation and quarantine.

3. The greatest diversity prevails in the sanitary and quarantine laws and regulations of the individual States and Territories.

The quarantine systems present different degrees of perfection.

In times of pestilence, the Interstate intercourse and traffic are liable to sudden and arbitrary interruption; and the brutal *shot-gun quarantine* may be substituted for the dictates of humanity and the teachings of sanitary science.

4. The United States Marine Hospital Service, under the direction of the President of the United States and of the Secretary of the Treasury, has rendered and is capable of rendering important service to the Nation, in the exclusion of foreign pestilence.

5. The sanitary and quarantine laws of the several States should be perfected and unified. and the most perfect accord established between the individual States, on the one hand, and with the General Government on the other.

6. The most direct method and the wisest and most liberal, and the one most in accord with the spirit of our National and State institutions, appears to be the appointment on the part of the individual States, and of the General Government, of representatives duly commissioned, and empowered to meet in *general assembly*, at such places and times as may be deemed best, for the thorough discussion of the existing sanitary and quarantine laws, and for the preparation of a National Sanitary and Quarantine Code.

7. The National Sanitary and Quarantine Code should define clearly the relations of the individual States to each other, and to the United States Government, on all matters relating to the domestic sanitation of the individual States, and to public and International hygiene. The regulations should have due regard to differences of climate, elevation, endemic and epidemic diseases, and commercial relations; *and the burden of* maintaining maritime quarantine should be borne by the Republic, and should not be inflicted upon *commerce*, or upon the maritime States alone.

8. The members of the Association charged with the examination, enlargement, consolidation and perfection of the sanitary and quarantine regulations and laws of the several States, and the elaboration of the *National Sanitary and Quarantine Code*, should be men of the greatest learning, wisdom and experience in the *medical* and *legal* professions. They should receive fixed and ample salaries, so as to enable the Congress to work with due care and deliberation until its important labors are completed.

9. After the completion of the labors of the Congress, the Sanitary and Quarantine Code should be submitted to the individual States for their ratification; and after adoption by a majority of the States composing the American Union, the National Sanitary and Quarantine Code shall become National, and shall receive the support of the General Government.

It will be observed that the plan here proposed is designed to ascertain and formulate the police powers of the people in sanitary and quarantine matters, and is opposed to all hasty, and sectional, and arbitrary legislation, as advised by politicians, or by ambitious and scheming self-constituted guardians of the public health.

156 Washington St., New Orleans, La., May 5, 1888.

MISCELLANEOUS.

New York State Medical Association, *Fifth District Branch*, will hold its fourth annual meeting in the Magnolia Lodge Rooms, Brooklyn, N. Y., on Tuesday, May 22, 1888. Valuable papers and topics of interest will fully occupy the time of the meeting.

The Medical Society of New Jersey will hold its one hundred and twenty-second annual meeting at the Heath House, Schooley's Mountain, N. J., on Tuesday and Wednesday, June 12 and 13, 1888. For further information apply to Wm. Elmer, Jr., Corresponding Secretary, Trenton, N. J.

Pajot's Ergot-Mill.—Sir James Paget would doubtless be surprised to read in the last issue of an American contemporary that "Professor Paget, carries in his obstetric bag an ergot-mill, resembling a small coffee-mill, compact in form, and designed to grind up ergot freshly for use." Pajot claims that ergot is unreliable unless freshly pulverized, and in order to have it in this form he grinds it for immediate use.

Death of Dr. Joseph Aub.—We regret to announce the death of Dr. Aub, the well-known ophthalmologist and otologist of Cincinnati, which occurred a few days ago. He was in the prime of life, but had been suffering with heart trouble for some time.

Cincinnati has suffered severe professional loss within the past few weeks in the death of Dr. Aub, in that of Dr. C. S. Muscroft, which took place on May 1, and in the probably fatal injury of Dr. C. D. Palmer on May 2, when he was thrown from his buggy.

Transactions of the Ninth International Medical Congress.—Two volumes of the Transactions of the recent Medical Congress in Washington, are ready and being distributed to members as rapidly as possible. Through the active agency of the late Secretary-General Hamilton, 150 members received these volumes while in attendance on the annual meeting of the

American Medical Association, in Cincinnati. The work of publication has been done in excellent style thus far. The third volume is also by this time complete, and the remaining two will follow within the next three months; making five large volumes, and constituting a valuable library in themselves.

UNIVERSITY MEDICAL MAGAZINE.—In accordance with a resolution adopted by the Faculty of Medicine of the University of Pennsylvania, the first number of a handsome 64 page medical monthly will be issued October 1, 1888, under the title *The University Medical Magazine*, edited under the auspices of the Alumni and Faculty of Medicine of the University of Pennsylvania. It will be edited by a staff from the Professors of the University, the editorial committee being Dr. George E. de Schweinitz and Dr. Hobart A. Hare. It will be published by A. L. Hummel, 224 S. Sixteenth St., Philadelphia.

NINTH INTERNATIONAL MEDICAL CONGRESS EXPENDITURES.—*Treasury Department, Washington, April 30, 1888.*

Sir: I have the honor to transmit herewith, for the information of the House of Representatives, an itemized statement of the expenditures from the appropriation for "the purpose of entertaining and providing for the expenses of the Ninth International Medical Congress," held in this city September 5 to 12, 1887. Very respectfully, your obedient servant,

C. S. FAIRCHILD, Sec'y.

The Speaker of the House of Representatives.

EXPENDITURES.

1887.	
June and July, Pay-roll, Ella Whiting, clerk committee of arrangements	$ 150.00
Aug. 13, Gray & Clarkson, blank books and stationery	33.75
Aug. 12, D. C. Patterson, cash paid for miscellaneous expenses local committee, as per vouchers in original copy	116.08
Aug. 3, Gibson Brothers, printing registration blanks	17.50
Aug. 9–17, Bailey, Banks & Biddle, engraved cards and envelopes	360 00
Aug. 20, Bailey, Banks & Biddle, steel-plate engraving 3,000 invitation cards, etc	331.00
Aug. 2, Thomas McGill & Co., printing 600 slips (rebate on railroad fare)	3.00
Sept. 5. Wm. F. Fell & Co., miscellaneous printing (5000 programmes, 500 abstracts)	789.47
Sept. 1–10. James L. Klee, services (German interpreter)	20.00
Sept. 10, Rémy Lefranc, services (French interpreter)	30.00
Sept., Bailey, Banks & Biddle, 300 white metal medals (badges)	450.00
Sept., E. Morrison, 4,000 envelopes	18.00
Sept., Church of Our Father, rent of church	80.00
Sept., J. H. Weirick, clerical services	24.00
Sept., Albaugh's Opera House, rent of opera house	450 00
Sept., Dr. D. C. Patterson:	
Amt paid for armory, Washington Light Infantry	210.00
Amt. paid for electric-light plant at Pension Office	270.00
Sept., National Rifles, rent of hall	125.00
Sept., Miss Ella Whiting, clerk for chairman committee of arrangements for August, 1887	75.00
Sept., Gibson Brothers, printing, engraving, etc	106.70
Sept., J. W. Walling, rent of desk	5.00
Sept., Pennsylvania Railroad Company, per R. A. Parke, general southeastern passenger agent, transportation furnished foreign delegates of International Medical Congress to Niagara Falls and return, special train, Pullman cars	4,480.00
Sept., L. G. Marini, rent of Masonic Hall	150.00
Sept., Bailey, Banks & Biddle, 3,000 menus engraved on steel	1,245.00
Sept., Society of the Grand Army of the Republic, rent of four halls	225.00
Sept., Thomas McGill & Co., printing, etc	4.00
Sept., First Congregational Society, rent of church	200.00
Sept., Washington Gas-Light Company, gas furnished	30.38
Total	9,998.88

APPROPRIATION.

Act appropriated March 3, 1887	$10,000.00
Expenditures	9,998.88
Balance	1.12

NEW BOOKS RECEIVED.

Dissolution and Evolution and the Science of Medicine. By C. Pitfield Mitchell. London: Longmans, Green & Co.

A Practical Treatise on Diseases of the Skin. Second Edition. By James Nevins Hyde. Philadelphia: Lea Brothers & Co.

A Treatise on Dislocations. By Louis A. Stimson. Philadelphia: Lea Brothers & Co.

The Southern Cattle Plague of the United States, with especial relation to its Resemblance to the Yellow Fever. By Frank S. Billings.

Lesions of the Vagina and Pelvic Floor, with especial reference to Uterine and Vaginal Prolapse. By B. E. Hadra. Philadelphia: Ricards, McMullin & Co.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 5, 1888, TO MAY 11, 1888.

Lieut.-Col. James C. McKee, Surgeon, granted leave of absence for one month. S. O. 107, A. G. O., May 9, 1888.

Major Chas. R. Greenleaf, Surgeon, Major Robert M. O'Reilly, Surgeon, Capt. Jno. O. Skinner, Asst Surgeon, detailed as members of a board of medical officers to assemble at the U. S. Military Academy, West Point, N. Y., on June 1, 1888, to examine into the physical qualifications of members of the graduating class and of the candidates for admission to the Academy. S. O. 104, A. G. O., May 5, 1888.

Major Harvey E. Brown, Surgeon, the leave of absence for seven days granted by Order 68, Ft. Barrancas, Fla., May 2, 1888, is extended twelve days. S. O. 90, Div. Atlantic, May 8, 1888.

Capt. Leonard Y. Loring, Asst. Surgeon, granted leave of absence for three months, on surgeon's certificate of disability. S. O. 105, A. G. O., May 7, 1888.

Capt. Paul R. Brown, Asst. Surgeon, granted leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Division of the Atlantic. S. O. 107, A. G. O., May 9, 1888.

Capt. Robert B. Benham, Asst. Surgeon, to proceed from Ft. DuChesne to Ft. Douglas, Utah, and report to commanding officer of that post, not later than the 25th inst., to accompany battalion of Sixth Infantry to Ft. Lewis, Col. Upon completion of this duty, will return to his station, Ft. DuChesne, Utah. S. O. 33, Dept. Platte, May 5, 1888.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING MAY 12, 1888.

P. A. Surgeon A. G. Cabell, detached from "Adams," proceed home and wait orders.

Surgeon M. H. Simons, detached from Naval Academy and to practice ship "Constitution."

Medical Director P. J. Horewitz, leave of absence for six months, to leave the United States.

A Naval Medical Examining Board is now in session at the Naval Hospital, Philadelphia, for the examination of candidates for admission to the Medical Corps of the Navy. There are eleven vacancies in the list of Asst. Surgeons. Permits for examination can be obtained on application to the Secretary of the Navy.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING MAY 5, 1888.

Surgeon P. H. Bailhache, to proceed to New York, N. Y., for temporary duty. May 1, 1888.

Surgeon W. H. H. Hutton, detailed as President of Board to report as to quarantine establishment at North Chandeleur Island, Gulf of Mexico. May 4, 1888.

Surgeon Walter Wyman, granted leave of absence for fourteen days. May 4, 1888.

Surgeon G. W. Stoner, detailed as chairman of Board for the physical examination of candidates for appointment and promotion, Revenue Marine Service. May 5, 1888.

P. A. Surgeon F. W. Mead, detailed as recorder of Board for the physical examination of candidates for appointment and promotion, Revenue Marine Service. May 4, 1888.

P. A. Surgeon H. R. Carter, detailed as recorder of Board to report as to quarantine establishment at North Chandeleur Island, Gulf of Mexico. May 4, 1888.

P. A. Surgeon S. C. Devan, relieved from duty at Sapelo Quarantine; to assume charge of the Service at Savannah, Ga. May 3, 1888.

P. A. Surgeon J. H. White, relieved from duty at Savannah, Ga; to assume charge of Sapelo Quarantine Station. May 3, 1888.